DAILY METAL REPORTER
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METALS

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In This Issue

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By JEAN VUILLEQUEZ
Vice President, The American Metal Co., Ltd.

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President, Titanium Metals Corp. of America

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By L. H. TARRING
London, England

DOMESTIC METAL MARKET REVIEW

U. S. METAL IMPORT DUTIES

WASHINGTON REPORT

METAL STATISTICS

OCTOBER
1954

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TWO LINE *Editorials*

The Republican and Democratic leaders have made a solemn pledge that the coming campaign will be one of "decency, honesty and fair play." But won't such an unusual program leave the voters hopelessly confused?

* * *

An irate editor writes that all tax experts should be in hell. Working, we presume, in the infernal revenue department.

* * *

A California doctor says that tuberculosis can be cured by not breathing. Yes, the stop-breathing treatment has always proven a sure and permanent cure for any disease.

* * *

A headline says "Visiting European Architect Admires U. S. Capitol." Most Europeans, however, seem to have the greatest admiration for U. S. capital.

* * *

"As Maine goes so goes the nation" says the old political proverb — so it's nice when Maine goes both ways and thus gives encouragement to both sides.

* * *

A magazine article asks: "What do home-builders want in a new house?" Well, one thing they all want is more house than they have money to pay for.

The American Metal Company, Ltd.

61 Broadway, New York 6, N. Y.

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Washington Report

October 8, 1954

THE Government's stockpiling program of strategic materials and metals made news in Washington during the month in review. The General Services Administration made additional purchases of lead and zinc but the Government refused, at least temporarily, to divert fourth quarter delivery of copper from the stockpile to industry.

The GSA on October 6 again asked producers to submit offers of Prime Western or High Grade zinc, specifying that the offers be submitted at a firm price. Other conditions of purchase remained the same, namely that the metal be of domestic origin, mined after April 1, 1954 and that delivery be completed by December 15. On October 8, the GSA requested offers of newly-mined domestic lead for delivery to the Government's stockpile by December 15. The request for tenders by the GSA meant that the Government had decided to continue buying lead under the President's "long term" stockpile program even though the price of the metal had reached 15.00c a pound as a result of Government buying.

It was the first time since June that requests for the two metals were not issued simultaneously and some observers suggested that the Government might have decided to step out of the lead picture. Other informed quarters, however, believed the Government's delay in asking for tenders for lead at the same time it asked for offers of zinc was due to the dual price situation in lead before the quotation was firmly established at 15.00c.

Diversion of Copper

The Government's decision not to divert fourth quarter delivery of copper from the stockpile to industry was expected to remain in effect as long as the strikes in the copper industry continue unsettled, according to some industry spokesman. It is believed that Secretary of Labor Mitchell would probably withdraw his objections to having copper go to brass and wire mills where it is urgently needed for consumption, instead of being locked up in the stockpile for some future emergency, should the Anaconda strike and the strike at the Utah smelter and refinery be settled.

The Commerce Department, meanwhile, urged deferment in order to relieve the strike-induced shortage of the metal for industrial use. The Labor Department's position has been that no national emergency is involved and that changing the present purchase might be construed as Government strike bearing.

There were many predictions that the unions themselves might take the intiative of petitioning the Government not only to defer the copper deliveries but to actually draw on the copper that is already in the stockpile to alleviate the situation. It was believed unions might take such action when fabricating plants are forced to close because of the copper shortage.

GOV'T RELEASES COPPER

For late developments concerning U. S. Government action making 26,500 tons of copper available to industrial consumers, and new licensing procedures for export of copper and copper scrap, see Page 15.

Rep. James T. Patterson (Rep., Conn.) also foresaw unemployment in the fabricating industry because of lack of the red metal and has urged Defense Mobilizer Arthur Flemming to defer copper stockpiling temporarily.

In a telegram to Secretary of Commerce Weeks, the National Electrical Manufacturers Association also asked for deferment of copper shipments to the stockpile, and also an immediate embargo on scrap copper exports.

New Stockpile Directive

ODM Chief Flemming earlier, on September 21, announced he had forwarded to the GSA a revised purchase directive covering procurements of certain metals. The directive provides for the acquistion of metals toward minimum and long-term objectives under the National Stockpiling Act and suggests a list of materials that may be acquired for the supplimental stockpile authorized in the Agricultural Trade Development and Assistance Act of 1954.

New Procurement toward minimum objectives is expected to amount to $145,000,000 for the following metals:

Aluminum: bauxite, Jamaica type; beryl; chromite, refractory; fluorspar, metallurgical; manganese ore, battery; manganese ore, chemica; nickel; platinum; tantalite, and tungsten, processing.

$5.3 Billion Stockpile

E. H. Weaver, former assistant director for materials, ODM, told the American Mining Congress, at San Francisco on September 22, that of the 75 materials in the national stockpile, about 55 are metals and minerals. At the present time the minimum objectives are valued at a little under $7,000,000,000, he said, with more than $5,300,000,000 actually in inventory or on order. Minimum objectives on about 40 of the stockpile items have been attained, Mr. Weaver said.

Lead, Zinc Duties

Out of San Francisco from the Congress came other developments concerning the metal industry. Mining men, disappointed over the President's failure to approve Tariff Commission recommendations for higher duties on lead and zinc, urged that the power to act on these recommendations be removed from the Executive Department and placed in the hands of Congress. This position was stated in a resolution adopted by the American Mining Congress.

But strong opposition to higher or sliding scale tariffs on lead and zinc also was voiced at the San Francisco meeting. Jean Vuillequez, vice president of the American Metal Company, Ltd., asserted that in the recent Tariff Commission hearings on lead and zinc duties, the smelting industry "seems to have been well forgotten." (Mr. Vuillequez's address at the convention appears in this issue on Page 7.)

Steel, Metal Export Curbs

Effective October 7, the Commerce Department's Bureau of Foreign Commerce announced that a number of additional steel and metal commodities may be exported to most countries without applying for individual export licenses. The items removed from the

(Continued on page 19)

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HIGHER IMPORT DUTIES ON LEAD, ZINC WOULD HIT DOMESTIC SMELTERS WHICH USE FOREIGN MATERIAL

Cites Tariff Commission Finding That Rise in Home Consumption of Both Metals in Postwar Years Has Greatly Exceeded U. S. Production

By JEAN VUILLEQUEZ, Vice President, The American Metal Co., Ltd.

THE question of tariffs has been the subject of many learned books and the issue is one which was debated and fought over by our forefathers before America was discovered. Over one hundred years ago a famous European economist observed that unless goods were allowed to cross frontiers, soldiers would. At that time the protectionist system was substantially entrenched throughout Europe and active discussion was going on with regard to the wisdom of this system.

Here I should like to affirm that I am neither a confirmed free trader, nor an absolute protectionist. It is my belief that the question of tariffs or other protective measures should be selective, depending upon the facts of each case. Certain of our raw material producing industries, and of our processing and manufacturing industries, may need protection of some form and in some degree to insure our defense and the continued expansion of our standard of living. During the last two years much has been said and written in the United States about the tariff question in general and regarding higher tariffs for lead and zinc in particular.

Our views on the lead and zinc tariff question are based on present and foreseeable conditions in the lead and zinc industry, and do not necessarily apply to other industries. Our position is that there should be no tariffs on imports of any raw material of which we are substantially dependent upon from friendly foreign sources of supply.

We believe that the United States in the foreseeable future cannot produce enough lead and zinc at home to service our processing and manufacturing industries. Even during the period of high prices following the end of World War II, and during the hostilities in Korea, the United States was unable to produce sufficient quantities. I shall spare you the burden of a statistical recitation of this point. However, during the hearings of the Tariff Commission on lead and zinc, which were held during November, 1953, the Commission found, and I quote:

JEAN VUILLEQUEZ

"One of the most significant changes in the U. S. lead and zinc industries has been the very substantial expansion in domestic consumption (exclusive of stockpile requirements) of these metals. Domestic consumption of both lead and zinc in postwar years has been greatly in excess of production of these metals from domestic materials."

Some of the main arguments of those requesting higher or sliding scale tariffs on lead and zinc have been:

1 Foreign lead and zinc have been "dumped" in the United States. During the Tariff Commission hearings referred to, the Commissioners advised those who were complaining of "dumping" to take the matter up with the Treasury Department, which has jurisdiction under the Anti-Dumping laws. To the best of our knowledge, no such steps have been taken and the reason is clear: There is no proof of dumping because there has been no dumping.

2 The foreign lead and zinc shipped to the United States is cheap because it is produced by low-cost or slave labor. Now let's take a look at the record. During the hearings of the Tariff Commission cost figures were requested from domestic and foreign producers. Mexico and Canada are the largest exporters of lead and zinc to the United States and as to costs in these countries the Commission found:

". . . Reports received for Canada covered operations that in 1952 accounted for 80 per cent and 61 per cent, respectively, of total Canadian mine production of lead and zinc; reports received from Mexico covered operations that in 1952 accounted for 28 per cent and 45 per cent, respectively, of Mexican mine production of lead and zinc. The information obtained from foreign producers cannot be published without revealing the operations of individual concerns but such data made available to the Commission point to some general observations.

"The information available to the Commission indicates that total principal operating expenses, as well as expenses for wages and salaries, are lower **per ton of crude ore** mined in the United States than in Canada and Mexico. This appears to be the case even though average hourly earnings of workers are much lower for operations in Mexico than for those in either Canada or the United States, and are slightly lower for Canada than for the United States. The data also indicate that taxes other than income taxes **per ton of crude ore** mined in Mexico were much high-

Address delivered before the American Mining Congress, September 21, 1954, San Francisco, Calif.

er than in Canada and very much higher than in the United States.

"However, when allowance is made for the differences in the average value of the ores mined in the three countries, as affected by differences in the yield of metals obtained from them, the situation with respect to the foregoing comparsion of costs is quite different. Notwithstanding apparently higher operating expenses, and higher expenses for salaries and wages, **per ton of crude ore** mined in Canada and Mexico than in the United States, these expenses are lower **per unit of recoverable metal** in Mexico and Canada than in the United States. This helps to explain why, despite higher expenses per ton of ore mined in Canada and Mexico than in the United States, the ratio of net operating profit before income taxes to net sales, as indicated by the data, has in general been more favorable for Canadian and Mexican producers than for United States producers. This ratio was much higher for the reporting Canadian producers than for United States producers for all years covered by the survey (1950, 1952, January-June 1953). For reporting Mexican producers it was much higher than for United States producers in 1950, and in 1952 the ratios were nearly the same, but in the first half of 1953 the ratio was substantially lower for the reporting Mexican concerns than for United States producers."

Grade of Ore Higher

In other words, what the Commission found was that the grade of the ore is higher in Canada and Mexico. I think most of you know that it is not uncommon for many foreign lead and zinc properties to contain 15 to 20 per cent plus combined metals. I may have missed it, but I have not heard or read, any tariff proponent to the effect that protection is needed because mines in foreign countries are better than mines in the U. S., but in effect that is what the protectionists are asking for when they request higher or sliding scale tariffs on lead and zinc, and please bear in mind that most of these "foreign" mines are owned by American capital.

3 The security of the United States is imperilled, our defense is jeopardized, unless we increase tariffs on lead and zinc. Since the United States became dependent on imports of lead and zinc, which was immediately after the outbreak of World War II, the bulk of imports has come from the Western Hemisphere; Canada, Mexico and Peru. It is my understanding that in its planning for a possible future global war our Office of Defense Mobilization is counting on supplies from these three countries. The Minerals, Materials and Fuels Economic Subcommittee of the Committee on Interior and Insular Affairs in its report on Accessibility of Strategic and Critical Materials to the United States in Time of War, and For Our Expanding Economy, found: "The Western Hemisphere can be defended and will be the only dependable source to the United States of critical war materials in the event of an all-out war." Also, ". . . It is imperative to the security of this nation, and to the nations of the Western Hemisphere, that we and they foster the greatest measure of self-sufficiency in the production of such materials and continually study all possible devices that will encourage the expansion of Hemispheric production in this vital field.

Maximum Economic Output

It is vital to our domestic welfare economy and security that maximum economic production be maintained, first, within our own borders and, second, in the Western Hemisphere."

The very able Chairman of this committee was Senator George W. Malone who, I am glad to see, will address us later on this very subject.

4 Devaluation of foreign currencies has been used as an unfair weapon to export cheaply to the United States. On this point the only comment on Canada is that the U. S. dollar is still at a discount! So far as Mexico is concerned there have been two devaluations, one in 1948, and one in April of this year. In each case taxes, particularly export taxes, were increased in order to deprive the miner of the benefits of devaluation. After the inevitable increase in wages, it had been hoped that these taxes would be decreased but such has not been the case. In our operations in Mexico we are worse off than we were before the first devaluation in 1948 and we have been forced to request tax relief from the Mexican Government.

Some of the petitioners for tariff increases or sliding scale tariffs have stated that what is needed is a "combined" price in some directions of 25c, in others of 27c, and in some others of 30c or more. I have been somewhat puzzled as to just what people mean as to "combined" prices. If the price of zinc is 11½c and the price of lead 14¾c and thus the combined price 26¼c, does that mean that the producers who wanted 25c and 27c combined are well satisfied or does it mean that the mine which produces mostly zinc and very little lead must dine on baked beans, whereas the one that produces mostly lead and very little zinc can afford pate de foie gras and caviar? I have searched the records of our mining department and have not been able to find any U. S. mine which can be stated to recover 50 per cent each lead and zinc. In other words, each metal must be treated separately; it's value per ton of ore that counts.

I shall not attempt to go into the details of the injury to the economies of the countries exporting lead and zinc to the U. S. if higher tariffs were imposed and resulted in lower production or reduced earnings in those countries. However, these lead and zinc exporting countries import quantities of agricultural products, machinery, and manufactured products from the U. S. substantially in excess of the value of their exports of lead and zinc to the U. S.

During the polemics at the Tariff Commission hearings an important U. S. lead and zinc industry seems to have been well nigh forgotten. I refer to the smelting industry. Most smelters in the U. S. depend for their operations on foreign ores and concentrates. Our smelter is 100 per cent on foreign material, others need this material in lesser but important quantities. If the tariff on these raw materials is increased, American smelters will lose out to European smelters so that instead of importing ores and concentrates, we will import the refined metal. This is of importance to the U. S. mines since a substantial reduction in the operation of these smelters would result in increased costs which would have to be passed on to the miner.

Opposes Higher Tariffs

Last year at Seattle the American Mining Congress voted a resolution in favor of higher tariffs on lead and zinc. I do not know what this year's resolution contains, but if it is again in favor of higher or sliding scale tariffs, I would like my company, as a member of American Mining Congress, and I hope we will not be alone, to be recorded as voting against such a resolution.

We are not against assistance to the American mining industry. On the contrary, we are very much for it where it is justified; it is purely a question of methods and we believe that there are sound ways of alleviating distressed conditions. What we are against is tariffs which penalize and injure friendly countries whose production we need to maintain healthy and competitive processing and manufacturing industries, and who need our market.

GOVERNMENT, INDUSTRY SEEK TO BOOST TITANIUM CAPACITY TO REACH 35,000-TON TARGET BY 1957

Research Under Way to Produce Metal of Better Uniformity and Greater Quantities at Lower Cost; U.K. Plant to Have 1,500-Ton Annual Output

By E. R. ROWLEY, President, Titanium Metals Corp. of America

SILVERY-GREY titanium is classed as a light metal, being 60 per cent heavier than aluminum but only 56 per cent as heavy as alloy steel. Even more significant is its great strength. Titanium base alloys in commercial production today are far stronger than available aluminum alloys and superior even to most alloy steels. Titanium's unique strength, furthermore, is accompanied by excellent ductility.

Titanium alloys already developed after only a few years of research and in almost complete absence of detailed basic knowledge are far superior to all the usual engineering metals and alloys in strength-weight ratio. Titanium is the only structural metal known to have an endurance limit consistenly in excess of 50 per cent of its tensile strength, and its endurance ratio is well above the heat-treated alloy steels and far above the other nonferrous metals. This new commercial metal is highly corrosion resistant, being greatly superior to aluminum, considerably better than many specialty steels, and unique among the common engineering metals in its immunity to salt water and marine atmospheres. In fact, titanium is the only known structural metal having a corrosion-fatigue behavior in salt water practically identical to that in air.

Titanium alloys have shown much higher fatigue resistance than aluminum, higher even than steel. Some commercial titanium alloys are far harder than aluminum and approach the highly alloyed steels. Surface hardness comparable to nitrided steels are obtainable. Titanium has a far lower linear coefficient of expansion and lower thermal conductivity than either aluminum or alloy steels. Erosion, cavitation and wear tests put metallic titanium in a class by itself, and the metal is superior to aluminum in its capacity to withstand mechanical shock, and some tests have indicated the likelihood of values far above most of the alloy steels.

Even with such spectacularly attractive physical and mechanical properties, ductilemetallic titanium has attracted solid industrial attention only in the past few years. The existence of the metal has been known for well over 150 years, for in 1790 a Cornish clergyman named Gregor recognized that titanium dioxide was the oxide of a then unknown metal. Gregor tentatively proposed the name Menacchanite, which fortunately died in infancy. The same fate befell the name "Gregorite", which was proposed by some of his friends. The much more famous Austrian chemist, Klaproth, in 1795 pretty well duplicated Gregor's identification, and though he didn't succeed in isolating the metal, he did have the prestige to popularize the much more romantic name "titanium".

Isolation of Metal

In 1825, the year in which the Danish chemist, Oersted, is believed to have first isolated aluminum, the famous Swedish chemist Berzelius took the step from oxide identification to isolation of the metal, although of quite low purity. Titanium then faded in interest for many years, until in 1887 a metal of about 95 per cent purity was produced by Nilson and Pettersson by the mechanism of reducing titantium tetrachloride with sodium. Even higher-purity metal (about 98 per cent was turned out by Moissan in 1895, by reduction of the the tetrachloride in an electric arc. Again interest in this element waned, until in 1910 Hunter, in the United States, succeeded in isolating some pellets of 99.5 per cent purity metal by the old tetrachloride-sodium reaction, although even metal of such estimated purity was ductile only when hot but brittle in the cold state. Obviously this metal had yet to display challenging physical attributes even when painstakingly processed to extreme purity by the standards of that day.

The industry had to wait until 1925 to recognize that titanium was quite ductile when cold, when the team of van Arkel, de Boer and Fast used an entirely new and precise extractive approach, whereby titanium tetraiodide was dissociated on a hot filament. Certainly nothing since its discovery was as significant as this new technique of capturing very high-purity metal, and in fact the method has not been improved nor anything comparable developed to date. This "iodide" metal whetted interest in titanium because of attractive ductility properties so disclosed, but the extractive process was then and still is so costly and technologically difficult as to effectively dampen any interest as a commercial industrial operation.

The crucial research from an industrial standpoint stems from the imaginative investigations of Wilhelm Kroll in 1940, who perfected a reduction technique which, with modest modifications, offered the prospect of producing a quality grade of ductile metal on a commercial scale at tolerable cost. The Kroll technique is that of reducing high-purity titanium tetrachloride with magnesium, and is the procedure by which the two active American industrial units currently turn out metal, these being the Henderson, Nevada plant of Titanium Metals Corp. of America and the Newport, Delaware plant of E. I. DuPont.

At the T. M. C. A. Henderson plant, the basic flow sheet is relatively simple. Rutile is chlorinated in the presence of carbon at high temperature to form titanium tetrachloride. This compound is carefully purified and then reacted in large retorts with molten magnesium metal. The titanium sponge formed is separated from the excess metallic magnesium and the magnesium-chloride reaction product and then melted in arc furnaces to produce large ingots of titanium or titanium alloys.

The rutile used as plant feed is about 95 per cent TiO_2. Rutile was chosen as a feed material because

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Address delivered before the American Mining Congress, September 21, 1954, San Francisco, Calif.

of the economic and engineering problems involved in separating iron chlorides produced in the chlorination of ilmenite. Ilmenite is far the more plentiful domestic ore of titanium but contains only about 40 to 60 per cent TiO2.

The TiO2 content of the two ores alone point up some of the many problems associated with using domestic ilmenites as a feed material for TiCl4 production. These technical and economic problems must of necessity be solved since a healthy and large titanium metal industry has to base itself on domestic ilmenite rather than imported rutile.

Rutile is blended with ground coke using coal tar as a binder. The blend is thoroughly mixed and fed onto the bed of a circular tunnel kiln where the volatiles are burned off and the tar is coked. At the tunnel kiln discharge the mixture is a coked, porous, hard mass which is broken into fragments to form briquettes.

The briquettes go to the chlorination furnace which is maintained at a temperature 800°C or higher. Briquettes are fed intermittently into the top of the chlorinator and chorine gas is passed upward through this bed of briquettes.

The gaseous TiCl is evolved together with Co, Co2 and some excess chlorine.

The product gases from the chlorinators pass through dust collectors to remove suspended solids and then into the TiCl4 condensors. These are vertical towers into which cold liquid titanium tetrachloride is sprayed. Condensed TiCl4 is pumped to a settling tank where insolube matter and slude are separated. It is then ready for purification.

The development of processes for the production of titanium metal have depended on using a starting compound that could be freed from oxygen and nitrogen. Most of the impurities in TiCl4 can be removed by fractionation. Compounds, such as VOCl3, which have boiling points near that of TiCl4, can be altered by chemical treatment thus changing their boiling points. Using these principles TiCl4 of high purity is produced.

The basic principles involved in the reduction of TiCl4 by metallic magnesium, the Kroll reaction, is carried out in a closed vessel at about 850°C wherein the titanium tetrachloride is fed in onto the molten magnesium. Meanwhile the interior of the retort is maintained under positive pressure of helium. Sufficient magnesium is employed to provide an excess over the tetrachloride used. During the addition of the tetrachloride, titanium metal and magnesium chloride are formed.

After the reaction is complete, the reactor is immediately cooled. The titanium and magnesium chloride byproduct are removed from the pot in a horizontal boring mill. A special large diameter cutter is employed and the opeartion is adjusted to produce chips of a size not exceeding about one inch in largest dimension. All boring operations are carried out in a room maintained with a dry atmosphere to prevent moisture pickup by residual magnesium chloride in reaction vessel.

The chips are fed slowly into a tank containing a special acid solution which dissolves the magnesium and magnesium chloride and does not affect the titanium metal appreciably. Magnesium chloride byproduct drained from the reactors is used as feed for electrolytic cells. Electrolysis of this high purity magnesium chloride supplies recycled magnesium for reduction and chlorine for manufacture of TiCl4.

Consolidation of the titanium chips into ingots is accomplished in arc furnaces. Batches of chips, selected by analysis for the particular purpose intended, are carefully blended and compacted into briquettes. Each briquette, if required, contains alloying elements. The melting furnaces are of special design and contain a water cooled copper crucible into which the electrode is melted. Original ingots are about 17 inches diameter and weigh about 1,800 pounds. A portion of the production is of 24 inches in diameter double-melted ingots almost two tons in weight.

After melting the ingots are turned to remove surface imperfections and finished ingots are shipped to Allegheny Ludlum mills for conversion to bar, open die forgings, wire, and flat rolled products.

Commercial production of titanium metal involves very careful handling of all process steps. The propensity for titanium to absorb oxygen and nitrogen and become embrittled and comparatively useless is well known. This fact is responsible for many if not most of the processing difficulties encountered in the industry.

The present process for reducing titanium oxides to a quite pure metallic state is undergoing constant change leading to better uniformity and greater quantities at lower cost. While the opinion of many is that the Kroll process is not the ultimate production method, the current procedure is yet the only means of getting reasonably large quantities of this critical metal into military equipment.

As previously mentioned, the Kroll reaction utilizing titanium tetrachloride and magnesium is employed by Titanium Metals Corp. of America and E. I. DuPont, although the former is unique in that reaction byproducts are removed by leaching. Further, TMCA is the only company fully integrated in that byproducts are recycled to recapture magnesium and chlorine. A third company, Cramet, currently has a large Kroll-type plant under construction at Chattanooga, Tenn., and Dow Chemical Co., National Research Corp. and Horizons Titanium Corp. have signed contracts encompassing more modest production plants or pilot units.

The supply picture can be tabulated as shown in the table on this page.

It will be noted that the 15,000 tons of capacity falls far short of the 35,000-ton target for 1957. To close this gap, the Government has negotiated with E. I. DuPont for a possible 7,000 tons of additional capacity at Nashville, and the Electro-Metallurgical Corp. is in the terminal stages of planning for a probable 8,000 tons per year. It is interesting to note that the Electro-Metallurgical production may be based on sodium reduction, thus reverting back to the pioneer extractive procedure. In England, Imperial Chemical Industries is constructing at Wilton a 1,500-ton annual capacity plant under a Ministry of Materials contract, and they also favor sodium reduction. In Japan the Kroll process is used to produce metal at a current rate of some 50 tons per month, which metal is being exported to both the United States and Britain.

TITANIUM SUPPLY PICTURE

Company	Location	Contractual Capacity Tons per Yr.	Year of Full Availability
Titanium Metals Corp. of America	Henderson, Nev.	3600	1954
E. I. DuPont	Newport, Del.	3600	1954
Cramet	Chattanooga, Tenn.	6000	1955
Dow Chemical Co.	Midland, Mich.	1800	1956
Horizons Titanium, Inc.	Stamford, Conn.	—Pilot Plant—	
	TOTAL	15,000	

LONDON COPPER PRICES SKYROCKET; NO EASING IN TIGHT SUPPLY SITUATION SEEN UNTIL END OF YEAR

Tin Market Outlook Hinges on U. S. Gov't Purchase Plans for 1955; Less Lead Arriving from Australia; Russia Offering Zinc in U. K.

October 6, 1954

By L. H. TARRING
London, England

THE effect of the serious strikes on producing plants in the United States and Chile which had begun to make itself apparent in prices on the London market during August has steadily become more and more pronounced in recent weeks, until just recently quotations, particularly for cash copper, have been rocketing upwards and prices have far outstripped all previous records.

The previous peak was £287 a ton in 1952 (whilst the metal was still under Government control) but on October 5 cash copper sold at £310 a ton. This is a measure of the anxiety felt by dealers and consumers regarding the supply outlook and it is hardly surprising in the circumstances that the backwardation widened quite considerably. However, even though there is currently a spread of around £20 a ton between cash and three months copper the fact that forward metal has risen in price by some £50 a ton since the middle of August indicates that the stringency is not regarded as being one of a very temporary character.

Months To Rectify Situation

Indeed the general feeling here at the moment is that it will take months for the situation arising from the strikes to be rectified and already it would seem that the major sellers, with the possible exception of Chile, have very little metal to offer, at any rate until the turn of the year. In some cases their order books are pretty full considerably further ahead than that.

Consumer demand for copper has been good for months past but unfortunately in the U. K. a number of users were not particularly well covered and with the breakdown in Chilean supplies there has been a frantic scramble to try and cover from other sources. In the last few days sentiment has been stronly affected by rumors that the United States might refuse to license further exports of copper whilst the strikes at the domestic producing plants were keeping the U. S. fabricators short of copper.

Even though the Chilean strikes now seem to be settled the authorities there are apparently in no hurry to reenter the market, possibly taking the view that the longer they wait the better will be the price they will be able to obtain for their metal, and events of the last year or two have made it abundantly clear that the Chilean authorities are primarily concerned with getting the highest possible price for their copper and are much less affected in their marketing outlook by the long term possibilities of competition from other materials at unduly high price levels than are major producers in America and elsewhere.

With primary producers in the

U. K. COPPER STATISTICS

The British Bureau of Non-Ferrous Metal Statistics reports U. K. stocks at the end of July as 67,307 tons compared with 68,037 tons at the end of June: of July figure 20,512 tons were blister and 46,795 tons refined, (21,157 tons and 46,880 tons respectively the previous month). Consumers held 24,371 tons refined; stocks in L. M. E. warehouses accounted for 175 tons blister and 1,746 tons refined,and other stocks 20,337 tons blister and 20,678 tons refined. Production of primary refined during the month was slightly lower at 10,499 tons (10,643 tons), as was production of secondary blister at 731 tons (864 tons) and secondary refined 6,368 tons (6,603 tons). Consumption was also lower at 42,417 tons compared with 49,474 tons in June.

The following figures show output of main copper and alloy products during June in long tons:

	July 1954	Jan-July 1953	Jan-July 1954
UNALLOYED COPPER PRODUCTS			
Wire	12,016	80,513	98,610
Rods, Bars and Sections	1,977	7,044	13,658
Sheet, Strip and Plate	4,579	24,249	33,395
Tubes	4,028	21,305	26,101
Casting and Misc.	500	3,500	3,500
ALLOYED COPPER PRODUCTS			
Wire	907	4,756	7,031
Rods, Bars and Sections	5,717	31,327	45,224
Sheet, Strip and Plate	6,893	40,429	48,889
Tubes	1,098	7,370	7,507
Casting and Misc.	3,467	22,570	28,425
Copper Sulphate	1,235	7,642	7,912
Total All Products	42,417	250,705	320,252
of which: Consumption of Refined copper Virgin)	29,644	127,838	242,271
(Secondary)		44,553	
Consumption of Copper & alloy scrap (Copper Content)	12,773	78,314	77,981

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U. S. A. holding their selling price down to 30c a lb. and the big Belgian producers pursuing a conservative price policy, having regard to the circumstances, it is not altogether surprising that some criticism should have been levelled at the London market for the spectacular boom in quotations; but it has to be remembered that it is one of the very few plans, if not the only place, where in circumstances such as this international traders can take some steps to cover their position against developments over which they have no control.

The impact on prices of panic buying on a market which has been kept rather short of metal for some time past has naturally been very considerable. British fabricators are to some extent placed in a rather disadvantageous position, as nearly all their copper intake is based on Metal Exchange quotations and they are therefore at some disadvantage for the time being from a price point of view compared with their competitors in America and, to a rather lesser extent, on the Continent.

The refusal of the American authorities to release copper from the stockpile and divert metal earmarked for this purpose to industrial uses, has caused a good deal of disappointment over here. Although it is realized that this action has been taken probably largely on the grounds of not interfering with the situation while a strike is in progress, it is hoped that once the labor situation is settled metal will be diverted from the stockpile for a time in order to hasten the rehabilitation of the industrial stock position and limit the period of high prices.

U. K. TIN STATISTICS

The British Bureau of Non-Ferrous Metal Statistics reports U. K. stocks of tin at the end of July as 3,823 tons compared with 4,075 tons at the end of June. Of the July figure consumers held 1,485 tons (1,520 tons) and other stocks 2,338 tons (2,555 tons). Production in June (the latest figure) was 2,403 tons (2,721 tons). Consumption at 1,519 tons was lower than the 1,860 tons in June.

The following figures show consumption of tin by main trades, in long tons:

	July 1954	Jan-July 1953	Jan-July 1954
Tinplate	728	5,244	5,852
Tinning	110	734	869
Solder	142	814	1,196
Alloys	412	3,100	3,174
Wrought tin	40	327	435
Chemicals	76	369	529
Other Uses	11	60	81
Totals	1,519	10,648	12,136

Little surprise was felt when the meeting of the provisional International Tin Council on September 20 in London passed without any very important developments. It was obvious that the meeting was largely a preparatory one to pave the way for action if and when the signatory countries to the International Agreement have duly ratified it.

Names were put forward for the posts of secretary of the International Tin Council and also for that of manager of the Buffer Stock, but these appointments remain to be confirmed if, and when, the control scheme becomes fully operative.

Political Situation Watched

Meanwhile the political situation in the Far East is naturally watched with close attention by all interested in tin, although so far it has not resulted in any major price movements.

to meet industrial needs and on the London market cash and forward metal have remained at substantially the same level for some little time now.

The tendency of world consumption seems to have been upwards during the current year and with the continuing growth of the tinplate industry in practically all countries further progress is hoped for in the coming months. It still remains very uncertain as to what the statistical position will be in 1955 as, apart from any decisions which may be taken under the Control Agreement if it is then in force, there is no certainty what the U. S. Government will do next year in the way of taking tin off the market.

Lead Displays Strength

The lead market, which a month ago was thought to have moved up to a fairly high price level, has shown considerable further strength in recent weeks.

As far as the London market is concerned the situation has been affected in the last few days by a serious strike of dockers which has resulted in some hurried covering purchases by consumers to replace metal delayed by the strike. It is also noteworthy that recently there has been less than usual arriving here from Australia and although there has been some selling from American sources of Mexican and/or South American lead, this has not been sufficient to stem the rising tide of prices, especially as the metal concerned will not, of course, arrive here yet awhile.

Another factor conducive to the strength of the market has been the continuance of Russian buying here. Although this at any particular moment has not been of a very outstanding character, in the aggregate it has absorbed quite a substantial tonnage of lead and in a market in which supply and demand were already rather precariously balanced it has had quite a considerable influence on values.

Consumption of lead is generally speaking good and the better tone of the United States market is naturally an encouraging factor. For the time being it seems probable that there is enough lead being produced in the world to meet users' needs, but perhaps only just about enough and if large quantities are to be siphoned offf the market into the U. S. stockpile the stock position may well remain a tight one for some time to come.

Even if prices do not fully hold at the levels recently established (which are the highest seen since private

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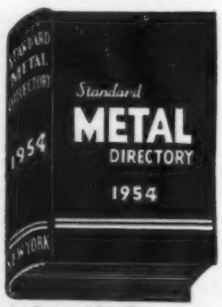

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trading in the metal was resumed) it is not easy at the present time to see any really serious recession in quotations.

U. K. LEAD STATISTICS

According to the British Bureau of Non-Ferrous Metal Statistics, U. K. stocks of lead at the end of July totalled 29,498 tons compared with 30,437 tons at the end of June. Of the July figure 19,621 tons were imported virgin and 9,871 tons English refined. Consumers held 14,431 tons imported virgin and 5,844 tons English refined, and stocks in L. M. E. approved warehouses were 1,255 tons imported virgin. Other stocks comprised 3,955 tons imported virgin and 4,027 tons English refined. Production of English refined amounted to 6,302 tons. Consumption was lower at 25,968 tons compared with 28,574 tons in June.

The fololwing figures show consumption of lead by main trades, in long tons:

	July 1954	Jan-July 1953	Jan-July 1954
Cable Making	5,883	50,356	47,072
Battery (excluding Oxides)	1,896	13,476	17,737
Oxides and Compounds:			
Battery	1,971	11,116	16,319
Other Uses	3,853	14,793	23,626
White Lead	680	5,146	6,533
Sheet and Pipe	6,929	33,783	45,309
Shot	381	2,234	2,899
Foil & Collapsible Tubes	259	1,489	2,290
Solder	990	4,959	7,298
All other alloys	1,188	5,499	8,411
Misc. Uses	1,938	7,468	12,570
Total Consumption	25,968	150,319	190,064
of which:			
Imported Virgin Lead	15,004	73,628	111,656
English Refined	4,691	34,730	34,820
Scrap, including Remelted	6,270	41,961	43,588

On balance zinc has moved up a little during the past month but it has remained very much aloof from the boom atmosphere which has characterized the copper and lead markets.

Soviet Offers Zinc in U. K.

This, of course, is due to the fact that the world supply position of zinc is a fairly easy one still and despite a good level of consumption being maintained on this side of the Atlantic users are not in anyway afraid of running short of supplies. Moreover zinc is in a different position from copper or lead with regard to East-West trade.

Russia has been buying lead fairly steadily and is known to be anxious for copper supplies on a considerable scale either as raw metal or in fabricated or finished products. In zinc, however, the situation is reversed and the Soviet has actually been offering high grade zinc on the English market in recent weeks. It is not known on what scale she might be a seller as, so far buyers here have been rather cautious about taking supplies from this source; but the existence of Russian offerings naturally tends to hold any incipient enthusiasm about the zinc outlook in check.

It is to be presumed that if American stockpiling is carried out on the much larger scale recently announced by the President it will in due course markedly strengthen the U. S. statistical situation and also improve the balance of supply and demand in other countries. For the time being, however, there is not a lot of optimism expressed here with regard to zinc prices in the near future and consumers are still mostly content to buy only for their early needs.

U. K. ZINC STATISTICS

The British Bureau of Non-Ferrous Metal Statistics reports U. K. stocks of zinc at the end of July as 45,825 tons compared with 40,389 tons at the end of June. Of the July figure consumers held 22,128 tons and stocks in L. M. E. approved warehouses accounted for 2,677 tons. Stocks of zinc in concentrates rose to 43,705 tons compared with 39,280 tons. Production during July amounted to 5,639 tons of Prime Western virgin metal compared with 8,362 tons the previous month. Consumption was lower at 23,012 tons compared with 29,665 tons in June.

The following figures show U. K. consumption by main trades, in long tons:

	July 1954	Jan-July 1953	Jan-July 1954
Brass	7,903	46,347	62,220
Galvanizing	7,421	48,893	61,568
of which:			
General	2,478	18,299	19,236
Sheet	2,257	14,293	20,412
Wire	1,477	8,498	12,105
Tube	1,209	7,803	9,815
Rolled zinc	1,587	11,602	12,638
Zinc oxide	2,285	12,948	18,211
Zinc alloy diecasting	2,123	13,257	19,553
Zinc dust	682	5,048	5,038
Misc. Uses	1,011	6,733	6,986
Total all trades	23,012	144,828	186,214
of which:			
Primary metal	16,696	100,963	135,719
Secondary	6,316	43,865	50,495

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United States Duties on Principal Ore and Metal Imports

(Including Revisions in Effect June 6, 1951, Under Torquay Agreements)

(Quantities Are in Pounds Unless Otherwise Stated; n.s.p.f. Stands for "Not Specially Provided For.")

COPPER

NOTE—The excise tax of 4c a pound on copper (which was reduced to 2c a pound by the Geneva Trade Agreement) was suspended in April, 1947, until March 31, 1949, and on expiration it was further suspended until June 30, 1950. The tax was reimposed on July 1, 1950. It was suspended again on May 22, 1951, retroactive to April 1, 1951, and until February 15, 1953, and again until June 30, 1954. Suspension further extended to June 30, 1955.

Copper ore and concentrates, usable as flux, etc., copper content	free
Copper ore and concentrates, product of Cuba and Philippines, copper content	free
Copper ore and concentrates, copper content	free
Regulus, black, or coarse copper, and cement copper, copper content	free
Unrefined black, blister, and converter copper in pigs or converter bars, copper content	free
Refined copper in ingots, plates or bars, copper content	free
Copper rolls, rods or sheets	1¼c lb.
Copper seamelss tubes and tubing	3½c lb.
Copper plain wire	12½%
Copper brazed tubes	5½c lb.
Old and scrap copper, fit only for remanufacture; and scale and clippings, copper content	free

BRASS

Brass rods, sheets, plates, bars, strips, muntz or yellow metal sheets, sheathing, bolts, piston rods, shafting and bronze rods, tubes and sheets	2c lb.
Brass tubes and tubing, seamless	2c lb.
Brass tubes, brazed, angles and channels	6c lb.
Brass and bronze wire	12½%

LEAD

NOTE—Import duties on lead-bearing ores, flue dust, and mattes of all kinds, lead bullion or base bullion, lead in pigs and bars, lead dross, reclaimed lead and antimonial lead were suspended Feb. 12, 1952, and reimposed on June 26, 1952. Lead scrap duty was reimposed July 1, 1952.

Lead-bearing ores and mattes, n. s. p. f., lead content	¾c lb.
Bullion or base bullion, lead content	1 1/16c lb.
Pigs and bars, lead content	1 1/16c lb.
Reclaimed, scrap, dross, lead content	1 1/16c lb.
Babbitt metal and solder, lead content	1 1/16c lb.
Pipe, sheet, shot, glaziers' lead, and wire	1 5/16c lb.
Type metal and antimonial lead, lead content	1 1/16c lb.
White lead	1.05c lb.
Litharge	1¼c lb.
Red lead	15/16c lb.
Orange mineral	1c lb.

ZINC

NOTE—Import duties on zinc-bearing ores, and on zinc in blocks, pigs and slabs were suspended Feb. 12, 1952, and reimposed on July 24, 1952. Tax on old zinc and dross and skimmings reimposed July 1, 1953.

Zinc-bearing ores, except pyrites containing not more than 3% zinc, zinc content	6/10c lb.
Zinc contained in zinc-bearing ores, n. e. s., not recoverable, zinc content	6/10c lb.
Zinc, old and worn out, fit only for remanufacture	¾c lb.
Dross and skimmings	¾c lb.
Zinc in blocks, pigs, or slabs	7/10c lb.
Zinc in sheets	1c lb.
Zinc sheets, plated with nickel or other base metal, or solutions	1⅛c lb.
Zinc dust	7/10c lb.
Zinc die-casting alloys	12½%
Zinc oxide and leaded zinc oxides containing not more than 25% lead, dry	3/5c lb.
ground in or mixed with oil or water	1c lb.

MISCELLANEOUS METALS AND ORES

Aluminum, metal and alloys, crude, except alloys elsewhere provided for	1½c lb.
Aluminum scrap	free
Aluminum plates, sheets, bars, rods, circles, squares, etc	3c lb.
Antimony ore, antimony content	free
Antimony metal and regulus	2c lb.
Antimony needle or liquidated	¼c lb.
Antimony oxide	1c lb.
Antimony sulphides	½c lb. & 12½%
Arsenic, metallic	3c lb.
Arsenious acid or white arsenic	free
Bauxite, crude	50c ton
Bauxite, refined	¼c lb.
Bismuth	1⅞%
Bismuth salts and compounds	35%
Beryllium metal and compounds	25%
Beryllium ore	free
Cadmium	3¾c lb.
Cadmium flue dust, cadmium content	free
Chrome ore or chromite	free
Cobalt ore and concentrates, cobalt content	free
Chrome or chromium metal	12½%
Cobalt metal	free
Magnesium, metallic	20c lb.
Magnesium scrap	free
Magnesium alloys, powder, sheets, wire	20c lb. & 10%
Manganese ores, containing over 10% manganese, manganese content	¼c lb., except Cuba, free
Molybdenum ore or concentrates, molybdenum content	35c lb.
Nickel ore, matte and oxide	free
Nickel and alloys, nickel chief value, n. s. p. f., in pigs, ingots, shot, cubes, grains, cathodes, or similar forms	1¼c lb.
Nickel, bars, rods, plates, sheets, castings, strips, wire or electrodes	12½%
Nickel tubes, tubing	6¼%
(if cold rolled, drawn or worked—2½% extra)	
Nickel scrap	free
Platinum, ores, platinum content, oz. troy	free
Platinum, grain, nuggets, sponge and scrap, oz. troy	free
Platinum in ingots, bars, sheets, or plates, not less than ⅛ in. thick, oz. troy	free
Quicksilver or mercury	25c lb.
Selenium and salts	free
Tantalum	12½%
Tin ore, cassiterite, and black oxide of tin, tin content	free
Tin in bars, blocks, pigs, grain, granulated, and scrap, and alloys, chief value tin, n. s. p. f.	free
Tungsten ore or concentrates, tungsten content	50c lb.

U. S. COPPER SEEN CONTINUING IN TIGHT SUPPLY UNTIL END OF 1954; PRODUCERS INCREASE OUTPUT

Lead Advances to 15c N. Y., Zinc Firm; GSA Buys Both Metals for Stockpile; Brass, Bronze Ingots Up 1c to 1¼c; Quicksilver Soars

October 12, 1954

COPPER supplies remained tight during the month in review. Although Chilean mines were put on a 7-day week basis, the shortage of the metal was expected to persist through the end of the year. Pressure was being put on the Government to defer fourth quarter shipments of copper to the stockpile. The big primary producers and custom smelters maintained their electrolytic price at 30.00c a pound delivered but up to 38.00c had been paid in the outside market.

Brass and bronze ingot prices were increased by 1.00c to 1.25c a pound on October 6. Lead moved up to 15.00c seon Oct. 6. Lead moved up to 15.00c a lb. N. Y.; Prime Western zinc was firm at 11.50c E. St. Louis. The Government made daditional purchases of lead and zinc for the stockpile. Quicksilver soared to an all-time high of $328 to $331 per flask.

Copper Shortage Continues

Although production of copper was beoing increased in Chile to ease the continuing tight supply situation, and similar steps were likely to be taken soon at some domestic mines, authoritative quarters believed the shortage of the metal would persist at least through the end of 1954.

In Chile, Kennecott Copper Corp.'s big Barden property at Ei Teniente was put back on a 7-day week production basis which should boost cutput from the present rate of 11,000 tons monthly to around 15,000 tons. Anaconda Copper Mining Company's two Chilean properties already are back on a 7-day basis.

Kennecott also was understood to be seriously considering placing its Ray and Nevada mines in this country on a 7-day work basis, which would increase their combined output from about 6,500 tons monthly to approximately 7,000 tons. In September, Kennecott placed its Chino property on a 7-day work basis, boosting its production to about 7,000 tons a month, as compared with 6,000 tons previously.

Strikes Settled

The four week strike which idled 2,100 workers at the Kennecott Copper Corp. refinery and the American Smelting & Refining Co. smelter, both plants located at Garfield, Utah, to all intents and purposes was settled on October 12. Officials of both companies said operations at the refinery and smelter would be resumed as quickly as possible. Both companies and the United Steelworkers of America, at the request of the U. S. Mediation and Counciliation Service, agreed to call off the strike and submit grievances to a special mediation board.

Refined Copper Loss

Meanwhile, the Mine, Mill and Smelter Workers Union (Ind.) and the Anaconda Copper Mining Co. reahed an agreement, subject to ratification, to end a 46-day strike that began on August 23 and which idled about 10,000 workers in Butte, Anaconda and Great Falls, Mont. Another 5,000 were idled in Arizona, Idaho, New York and Connecticut. The Connecticut strikers at the American Brass Company's plants in Ansonia and Torrington already have ratified strike settlement terms but have been holding off returning to their jobs until Anaconda, parent company of ABC, reach a settlement with its employes in Montana.

It is estimated that the strikes have so far caused the loss of about 60,000 tons of refined copper. Of this total, it is believed U. Sd strikes account for around 50,000 tons and the Chilean shutdowns the remainder.

There was further pressure put on the Government to defer fourth quarter shipments of copper to the stockpile. The Wire and Cable Section of the National Electrical Manufacturers Association sent a telegram to Secretary of Commerce Sinclair Weeks and the Business and Defense Services Administration, requesting deferrment of copper shipments to the stockpile for the next several months. The Section also suggested an immediate embargo be placed on the export of copper scrap.

Tight Supply Predicted

The Section, in its wire, asserted several copper producers were unable to promise any October shipments, and that it had been advised the critical supply situation would continue until at least the end of this year.

Before October is over, several wire and brass mills will be compelled to curtail production schedules because of the copper shortage, perhaps cutting their work weeks from six days to four days. Even those fabricators willing to pay reasonable premiums for copper have been unable to find adequate tonnages.

Producers and custom smelters maintained their price at 30.00c a pound delivered but had no copper available for sale. In the outside market 38.00c was reported to have been paid for a limited tonnage of prompt metal. Electrolytic copper for November export ranged from 34.00 to 35.00c f. a. s. New York.

Custom smelters on October 11 were offering 28.00c a pound for No. 2 heavy copper and wire scrap, and proportionate prices on other grades of scrap. As much as 28.50c had been paid for the No. 2 copper scrap grade but it was emphasized this price was paid on "special deals," which was said to mean toll contracts. Figuring the cost of refining at 4.50c a pound, a 28.00c price would be equivalent to 32.50c a pound f. o. b. refinery for copper that will be refined and ready for marketing in 60 to 90 days. While custom smelters did not intend to sell copper in the domestic market at this figure, some of them hope to realize this price abroad.

On October 6, brass and bronze ingot prices were increased by 1.00c to 1.25c a pound, the advances being attributed to the higher prices being paid for scrap.

Lead at 15.00c New York

Leading factors increased the price of lead by 0.25c a pound on October 4 to 15.00c New York. By the follow-

(Continued on page 16)

26,500 TONS COPPER MADE AVAILABLE BY U. S. GOV'T.

Copper: About 26,500 tons of refined copper will be made available by the U. S. Gov't. to industrial consumers for October consumption. The GSA on Oct. 15 was authorized to sell 17,500 tons of copper (accumulated under production-encouraging contracts) at 30.00c a pound plus handling charges, to needy consumers. The GSA also was authorized to arrange deferment of about 9,000 tons of copper scheduled for October delivery to the stockpile. The 17,500 tons to be sold outright to private industry will be disposed of under direction of the Commerce Department. Which also announced stringent controls over copper export licenses as long as necessary to prevent undue diversion of limited domestic supplies.

Copper Scrap: Copper scrap prices broke sharply, reflecting settlement of the last remaining strikes in the U. S. copper mining and processing industry, Gov't. action to relieve the copper shortage and sharp declines on the London market. On Oct. 15, No. 2 heavy copper wire scrap ranged from 25.75 to 26.00c a pound, a net decline of 2.00 to 2.25c from recent highs

Tin: Spot Straits tin at New York on Oct. 18 was quoted at 93.00c a pound; prompt Straits tin also was quoted at 93.00c.

U. S. Metal Review

(Continued from page 15)

ing day, all other sellers also had moved up to the 15.00c New York level, and to 14.80c St. Louis. The increase reflected higher prices on the London Metal Exchange and the stronger domestic demand.

On October 9, the General Services Administration again requested offers of domestically-produced lead, with the tenders to be submitted by October 12. It was taken for granted that the GSA would buy the metal at the prevailing market price of 15.00c New York but whether it would buy as much at this figure as it had in preceding months, remained to be seen.

Price Seen Holding

Previously the Government had purchased between 8,000 and 9,000 tons a month. At the 15.00c level, it was believed a good deal more lead would be offered by domestic producers. In some quarters, the guess was made that the offers might run well in excess of 12,000 tons.

The fact that the Government decided to continue to buy lead for the long-range stockpiling program and willing to pay 15.00c a pound removed doubts as to whether the price would hold. Without continued Government buying there was some uncertainty as to the market's stability.

GSA Purchases Zinc

On October 6, the GSA asked sellers to make offers of domestically-produced zinc for the stockpile. The GSA asked for offers of Prime Western or High Grade, specifying that the offers be submitted by October 7 and on a firm price basis. Whether the GSA's request that zinc be offered at a firm price precludes purchases at the average will have to await further developments.

It was believed offers made by producers were not as large as they were the last time the GSA asked for tenders, even though the present price, at 11.50c a pound East St. Louis for the Prime Western grade, is 0.50c a pound higher. In the first place, the strike in Montana, begun August 23, had taken a certain amount of production out of the market, and secondly, the 11.50c figure was still below what some factors regarded as an equitable price.

Zinc Statistics

Meanwhile, zinc statistics for September showed a big improvement. Production, at 60,072 tons as against 71,776 tons in August, was the smallest in some 14 years. Shipments were higher, totaling 77,863 tons in September as compared with 76,584 tons in the preceding month. And stocks in the hands of producers at the end of September declinde to 175,482 tons from 193,253 tons at the end of August.

Tin Market Dull

The tin market has been dull with spot Straits metal at 93.625c a pound New York on October 8 as compared with the last previously quoted price in this space of 93.50c for September 15. During the September 15-October 8 period the high of 95.25c was registered on October 5, with the low of 93.25c set three times, on October 1, 4 and 6.

The October 5 high of 95.25c refelcted the short-lived dock strike at New York ports.

Secondary Aluminum

Smelters' selling prices for secondary aluminum ingots continued to move upward. In some instances, it was believed prices were at or close to primary producers' quotations. Primary aluminum prices were unchanged, with the 30-lb. ingot, 99 per cent plus, at 22.20c a pound.

Quicksilver at Record High

Spot quicksilver reached an all-time high of $328 to $331 per flask of 76 pounds, as against the last previously quoted price in this space of $321, on September 15. Demand was not too active but the supply situation was so acute that sellers virtually could name their own price for the metal.

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NATIONAL BUSINESS PRESS **425 West 25th Street, New York 1, N. Y.**

Daily Metal Quotations in September, 1954

The following quotations are taken from the Daily Metal Reporter

(In Cents Per Pound)

September	Copper					Tin Straits New York		Lead		Zinc					Aluminum	Antimony	Silver
	Producers' Price Del. Conn.	Custom Smelters' or Outside Price	Electro f. o. b. Refinery	Lake Del.	Average Electrolytic Export Price f. a. s. N. Y.	Spot	Prompt	New York	Outside St. Louis	Prime West. f. o. b. E. St. Louis	Prime West. Del. N. Y.	Brass Spec. f. o. b. E. St. Louis	High Grade Delivered	Spec. High Grade Delivered	Virgin 99%	Domestic Spot 99.5% f.o.b. Laredo	(Cents Per Ounce) New York
1	30.00	30.00	29.70	30.00	30.00	92.875	92.875	14.25	14.05	11.00	11.50	11.25	12.35	12.50	22.20	28.50	85.25
2	30.00	30.00	29.70	30.00	30.00	92.625	92.625	14.25	14.05	11.00	11.50	11.25	12.35	12.50	22.20	28.50	85.25
3	30.00	30.00	29.70	30.00	30.00	92.75	92.75	14.25	14.05	11.25	11.75	11.50	12.60	12.75	22.20	28.50	85.25
4	30.00	30.00	29.70	30.00	30.00	....	....	14.25	14.05	11.25	11.75	11.50	12.60	12.75	22.20	28.50	....
7	30.00	30.00	29.70	30.00	30.00	93.25	93.25	14.50	14.30	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
8	30.00	30.00	29.70	30.00	30.00	93.125	93.125	14.50	14.30	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
9	30.00	30.00	29.70	30.00	30.00	93.50	93.50	14.50	14.30	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
10	30.00	30.00	29.70	30.00	30.00	93.50	93.50	14.50	14.30	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
11	30.00	30.00	29.70	30.00	30.00	....	....	14.50	14.30	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
13	30.00	30.00	29.70	30.00	30.00	93.875	93.875	14.50	14.30	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
14	30.00	30.00	29.70	30.00	30.00	93.75	93.75	14.50	14.30	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
15	30.00	30.00	29.70	30.00	30.00	93.50	93.50	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
16	30.00	30.00	29.70	30.00	30.00	93.875	93.875	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
17	30.00	30.00	29.70	30.00	30.00	94.00	94.00	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
18	30.00	30.00	29.70	30.00	30.00	....	....	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
20	30.00	30.00	29.70	30.00	30.00	93.875	93.875	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
21	30.00	30.00	29.70	30.00	30.00	93.625	93.625	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
22	30.00	30.00	29.70	30.00	32.50	93.875	93.875	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
23	30.00	30.00	29.70	30.00	32.50	94.125	94.125	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
24	30.00	30.00	29.70	30.00	32.50	94.00	94.00	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
25	30.00	30.00	29.70	30.00	32.50	....	....	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
27	30.00	30.00	29.70	30.00	32.50	93.50	93.50	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
28	30.00	30.00	29.70	30.00	32.50	93.375	93.375	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	....
29	30.00	30.00	29.70	30.00	32.50	93.75	93.75	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	....
30	30.00	30.00	29.70	30.00	32.50	93.50	93.50	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	....
AV.	**30.00**	**30.00**	**29.70**	**30.00**	**30.80**	**93.536**	**93.536**	**14.60**	**14.40**	**11.44**	**11.94**	**11.69**	**12.79**	**12.94**	**22.20**	**28.50**	**85.25**
HI.	**30.00**	**30.00**	**29.70**	**30.00**	**33.00**	**94.125**	**94.125**	**14.75**	**14.55**	**11.50**	**12.00**	**11.75**	**12.85**	**13.00**	**22.20**	**28.50**	**85.25**
LO.	**30.00**	**30.00**	**29.70**	**30.00**	**30.00**	**92.625**	**92.625**	**14.25**	**14.05**	**11.00**	**11.50**	**11.25**	**12.35**	**12.50**	**22.20**	**28.50**	**85.25**

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Washington Report

(Continued from page 5)

BFC's Positive List include certain types of electrical steel sheets and strips, and certain alloy steel mill products, including most types of non-nickel bearing stainless steel. Nickel bearing stainless steel, however, remains on the Positive List.

The BFC also announced that, effective October 14, about 20 commodities will be added to the Positive List, including certain alloy steel billets; metal manufactures such as phosphor bronze wire rope, cord and cable, monel and nickel manufactures; copper castings and forgings; coaxial cable; industrial machines and parts and a few industrial items.

GSA Quicksilver Policy

In reply to specific question, the GSA on October 6 said that no foreign producers have contractual obligations to deliver quicksilver to the account of the U. S. Government under barter or any other kind of agreement. GSA also said the present and future procurement efforts of the months of this year and compare to a total of $9,491,555 paid to the states agency are being directed toward the broadening of the mobilization base for quicksilver in this hemisphere through its offer to buy a total of 125,000 flasks of domestically-produced quicksilver and up to 75,000 flasks of Mexican quicksilver prior to December 31, 1957.

Defense Dep't. Buying Policy

The Defense Department also announced a new procurement policy designed to give "broader distribution of proposed military procurement information, particularly to small business." The Department has authorized the military services to give notice of their proposed procurement actions in advance of the time invitations for bids or requests for proposals are sent to established defense contractors. "All firms will thus be given a more equitable opportunity to complete for military procurement," the Pentagon said.

Mineral Activity Revenues

A record high of $11,184,235 in revenues from mineral activities on lands administered by the Bureau of Land Management will be paid to 22 states and Alaska, Secretary of the Interior Douglas McKay announced. The payments cover the first six for the last half of 1953. The states received $20,675,791 for the last full fiscal year.

Floyd in ODM Post

William S. Floyd has been appointed ODM assistant director for materials, succeeding Elmer H. Weaver who is returning to the Union Oil Company of California. Mr. Floyd will be responsible in ODM for determining the quantity of materials required to meet the nation's defense and stockpile needs as well as for the development of materials expansion and procurement program for mobilization. Mr. Floyd is on loan to the Government from the Shell Oil Company, where he was manager of the company's purchasing department.

Nickel Scrap Export Curbs

Export quotas for nickel-bearing alloy scrap containing no more than 67 per cent nickel, except nickel-bearing stainless steel, and nickel-bearing cobalt scrap, except Type S-816 (alloy containing 19-21 per cent nickel, 19-21 per cent chrome, and 40-44 per cent cobalt), have been open-ended for the fourth quarter, the Commerce Department's Bureau of Foreign Commerce announced. Under an open-end quota, no quantitative limitation is set but exports are controlled to protect the national security.

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Copper Statistics Reported by Copper Institute

Combined Totals in U. S. A. and Outside U. S. A.

(In tons of 2,000 pounds)

	Crude Production		Refined	Deliveries to	Refined Stock	Stock Increases or Decreases		
	Primary	Secondary	Production	Customers	End of Period	Blister	Refined	Total
1951 Total	**2,343,422**	**62,270**	**2,424,802**	**2,381,237**	**223,731**	**—19,110**	**+34,772**	**+15,662**
1952 Total	**2,362,887**	**55,858**	**2,385,538**	**2,451,093**				
1953								
Sept.	195,086	9,231	185,603	153,782	309,243	+18,714	+19,727	+38,441
Oct.	197,840	11,083	218,770	180,777	342,984	— 9,847	+33,741	+23,894
Nov.	180,169	6,541	198,239	180,917	354,370	—11,529	+11,386	— 143
Dec.	197,287	10,930	221,823	199,202	369,723	—11,945	+15,353	+ 3,408
1953 Total	2,397,540	123,210	2,514,969	2,275,060	369,723	+ 7,836	+180,762	+188,598
1954								
Jan.	191,564	7,835	196,653	169,386	388,631	+ 2,746	+20,389	+23,135
Feb.	177,075	7,096	174,360	163,474	393,792	+ 9,811	+ 5,161	+14,972
Mar.	196,870	8,254	211,370	189,030	405,563	— 6,241	+11,771	+ 5,525
April	195,823	6,662	200,364	203,772	397,593	+ 2,121	— 7,970	— 5,849
May	189,670	6,922	203,967	226,202	337,345	— 7,375	—60,248	—67,623
June	198,616	11,482	200,736	236,575	249,832	+ 9,362	—87,513	—78,151
July	196,588	9,955	212,922	202,717	239,479	— 6,379	—10,353	—16,732
Aug.	175,481	9,585	204,338	195,880	230,713	—19,272	— 8,766	—28,038
Sept.	186,694	7,521	195,112	199,181	219,714	— 897	—10,999	—11,896
In U. S. A.								
1951 Total	**964,589**	**56,910**	**1,199,784**	**1,367,787**	**71,528**	.....	**+22,488**	.....
1952 Total	**961,886**	**46,003**	**1,189,112**	**1,445,765**				
1953								
Sept.	78,952	7,796	114,760	104,886	72,907	.....	— 5,918	.....
Oct.	83,433	9,002	126,138	110,519	84,303	.....	+11,396	.....
Nov.	79,934	5,790	119,230	100,908	93,274	.....	+ 8,971	.....
Dec.	78,500	10,232	123,296	112,244	89,193	.....	— 4,081	.....
1953 Total	957,434	109,972	1,395,003	1,443,719	89,193	.....	+30,335	.....
1954								
Jan.	76,912	7,304	111,555	77.091	108,121	.....	+20,409	.....
Feb.	68,034	6,394	103,496	87,795	118,417	.....	+10,296	.....
March	73,429	7,671	117,546	95,795	125,759	.....	+ 7,342	.....
April	70,977	6,486	112,617	104,579	124,523	.....	— 1,236	.....
May	71,571	6,660	108,403	111,005	82,111	.....	—42,412	.....
June	74,113	11,216	112,121	106,252	69,181	.....	—12,930	.....
July	66,070	9,597	107,095	97,436	68,921	.....	— 260	.....
Aug.	52,825	8,784	103,901	92,475	58,387	.....	—10,534	.....
Sept.	61,612	7,015	87,623	88,947	47,666	.....	—10,721	.....
Outside U. S. A.								
1951 Total	**1,378,883**	**5,360**	**1,225,018**	**1,013,450**	**152,203**	.....	**+12,284**	.....
1952 Total	**1,401,001**	**9,582**	**1,196,426**	**1,005,329**				
1953								
Sept.	116,134	1,435	70,843	48,896	236,336	.....	+27,116	.....
Oct.	114,407	2,081	92,632	70.258	258,681	.....	+22,345	.....
Nov.	100,235	751	79,009	80,009	280,530	.....	+19,434	.....
Dec.	120,448	698	98,527	86,958	261,096	.....	+ 2,415	.....
1953 Total	1,441,874	13,238	1,119,966	831,341	280,530	.....	+150,427	.....
1954								
Jan.	114,652	531	85,100	91,941	280,510	.....	— 20	.....
Feb.	109,041	702	70,864	74,457	275,375	.....	— 5,135	.....
Mar.	123,441	583	93,824	93,235	279,804	.....	+ 4,429	.....
April	124,846	176	87,747	99,193	273,070	.....	— 6,734	.....
May	118,099	262	95,564	115,197	255,234	....	—17,836	.....
June	124,503	266	88,615	130,323	180,651	.....	—74,583	.....
July	130,518	358	105,827	105,781	170,558	.....	—10,093	.....
Aug.	122,656	801	100,437	103,405	172,326	.....	+ 1,768	.....
Sept.	125,082	506	107,489	110,234	172,048	.....	+ 278	.....

*Excluding Russia, Yugoslavia, Norway, Sweden, Japan, Australia.

Electrolytic Copper

Price, Del. Conn. Valley
Monthly Average Prices
(Cents Per Pound)

	1951	1952	1953	1954
Jan.	24.50	24.50	24.50	29.88
Feb.	24.50	24.50	25.46	29.88
Mar.	24.50	24.50	31.49	29.93
Apr.	24.50	24.50	30.59	29.98
May	25.31	27.829	29.72	30.00
June	24.50	24.50	29.94	30.00
July	24.50	24.50	29.92	30.00
Aug.	24.50	24.50	29.69	30.00
Sept.	24.50	24.50	29.75	30.00
Oct.	24.50	24.50	29.80	....
Nov.	24.50	24.50	29.88	....
Dec.	24.50	24.50	29.88	....
Aver.	24.50	24.50	29.15	....

Lake Copper

Producers' Price, Delivered
Monthly Average Prices
(Cents Per Pound)

	1951	1952	1953	1954
Jan.	24.625	24.625	24.625	30.00
Feb.	24.625	24.625	24.625	30.00
Mar.	24.625	24.625	32.00	30.00
Apr.	24.625	24.625	32.23	30.00
May	24.625	24.625	Nom	30.00
June	24.625	24.625	30.125	30.00
July	24.625	24.625	30.125	30.00
Aug.	24.625	24.625	30.125	30.00
Sept.	24.625	24.625	30.125	30.00
Oct.	24.625	24.625	30.125	....
Nov.	24.625	24.625	30.125	....
Dec.	24.625	24.625	30.038	....
Aver.	24.625	24.625	29.47	....

Export Copper

Electrolytic f.a.s. New York
Monthly Average Prices
(Cents Per Pound)

	1951	1952	1953	1954
Jan.	24.50	27.50	34.825	28.635
Feb.	24.50	27.50	34.825	28.59
Mar.	24.50	27.50	35.131	29.544
Apr.	24.50	27.50	35.89	29.93
May	24.50	24.50	29.89	30.00
June	27.50	34.415	29.75	30.00
July	27.50	34.537	29.692	30.00
Aug.	27.50	34.825	29.075	30.00
Sept.	27.50	34.825	29.00	30.80
Oct.	27.50	34.825	29.053	....
Nov.	27.50	34.825	28.875	....
Dec.	27.50	34.825	28.774	....
Aver.	26.318	31.742	31.218	....

Fabricators' Copper Statistics

(In Tons of 2,000 Pounds)

	Fabricators' Stocks of Refined Cop.	Unfilled Purchases of Refined by Fab. from Producers	Fabricators' Working Stocks	Unfilled Sales by Fabricators to Customers	Actual Copper Consmd. by Fabricators	Excess Fabricators' Stocks Over Orders Bkd.
1948						
Total	.....	.....	.....	.....	1,394,307	.....
1949						
Total	.....	.....	.....	.....	1,053,225	.....
1950						
Total	.....	.....	.....	.....	1,438,327	.....
1951						
Total	.....	.....	.....	.....	1,392,111	.....
1952						
Mar.	254,868	34,085	292,932	309,855	116,887	—313,834
Apr.	256,798	39,834	288,673	318,198	106,109	—310,239
May	240,962	41,135	289,822	304,639	109,890	—312,364
June	245,730	39,513	286,576	299,124	107,709	—300,457
July	281,064	53,716	293,220	303,765	82,419	—262,205
Aug.	298,849	50,399	287,512	294,280	119,280	—232,544
Sept.	308,036	47,188	295,275	285,465	122,934	—225,516
Oct.	311,676	45,970	290,634	285,114	125,325	—218,102
Nov.	315,608	33,710	292,028	280,716	130,031	—223,426
Dec.	333,455	32,652	292,157	275,312	117,303	—201,362
Total	.....	.....	.....	.....	1,389,451	— .....
1953						
Jan.	321,212	43,195	294,467	275,736	134,203	—205,796
Feb.	312,177	52,990	290,367	296,760	123,850	—221,960
Mar.	319,356	47,685	292,447	291,979	122,980	—217,385
Apr.	342,771	53,501	295,096	298,532	116,319	—197,356
May	364,197	49,952	293,794	285,425	123,972	—165,070
June	363,020	40,759	297,387	268,099	132,615	—161,707
July	375,629	39,936	302,113	259,641	91,826	—146,189
Aug.	366,244	42,490	305,204	235,893	113,250	—132,363
Sept.	358,081	38,593	307,612	206,476	111,805	—117,414
Oct.	352,091	31,035	305,431	187,438	116,259	—109,743
Nov.	350,804	34,380	305,877	165,047	102,258	— 85,740
Dec.	380,881	25,022	309,664	170,917	83,652	— 74,678
Total	.....	.....	.....	.....	1,375,869	.....
1954						
Jan.	355,632	26,423	307,014	142,588	100,805	— 67,547
Feb.	349,661	26,227	305,670	122,999	94,975	— 52,781
Mar.	341,693	28,836	304,065	123,887	103,796	— 57,423
Apr	341,616	30,677	302,391	124,559	104,943	— 54,657
May	349,796	33,210	305,504	123,039	102,810	— 45,537
June	351,518	43,723	304,833	122,218	104,531	— 31,810
July	370,287	41,104	307,352	130,576	80,751	— 26,537
Aug.	359,474	58,007	302,423	131,514	102,966	— 16,456

Scrap Copper Receipts by Custom Smelters and Refineries in United States*

(In Short Tons)

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Jan.	3,247	3,077	7,080	10,172	17,084	15,763	6,640	4,528	6,486	9,859
Feb.	2,877	1,576	5,394	11,890	20,238	12,500	5,153	3,633	10,337	8,490
Mar.	4,398	2,116	9,187	11,954	20,678	13,538	7,912	5,243	19,991	9,738
Apr.	5,249	2,750	13,065	15,125	15,968	12,304	8,553	6,214	16,584	9,004
May	4,427	2,455	14,264	16,357	14,237	8,749	8,458	8,033	10,857	8,687
June	4,733	2,230	9,883	11,176	8,809	20,523	8,628	4,425	10,945	13,309
July	5,342	2,581	8,578	8,370	7,782	10,040	6,642	5,188	9,063	10,260
Aug.	5,353	2,117	8,572	17,081	8,246	10,452	6,113	5,003	7,137	10,100
Sept.	4,504	4,832	10,611	16,001	10,980	4,903	3,561	4,667	9,042	10,641
Oct.	4,615	2,932	8,532	10,854	6,401	9,459	3,336	4,602	10,065	....
Nov.	4,030	3,079	8,070	7,625	15,347	9,237	3,179	4,724	7,815	....
Dec.	3,411	4,081	9,154	11,826	10,533	7,178	4,538	6,208	11,476	....
Total 51,866	33,826	112,386	147,931	156,303	142,067	71,812	62,470	129,798	.....	

*As compiled by Copper Institute.

Brass and Bronze Ingot Monthly Shipments

(Net Tons)

The following figures showing the combined shipments of ingot brass and bronze are compiled by the Ingot Brass and Bronze Industry and represent in excess of 95 per cent of the deliveries of the entire industry.

	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Jan.	43,569	41,021	29,196	27,841	26,998	19,456	18,874	28,416	28,315	24,423	20,661
Feb.	43,340	39,297	24,580	24,686	22,487	15,026	18,487	27,168	24,211	25,429	19,920
Mar.	45,068	41,988	27,176	27,477	24,282	14,550	22,494	31,997	23,890	28,256	23,653
Apr.	43,151	40,118	30,228	24,577	25,177	10,695	22,118	30,472	22,547	25,044	24,746
May	45,418	37,262	27,333	19,525	23,716	11,114	23,643	33,267	21,740	21,660	22,269
June	40,677	32,613	31,349	16,929	24,401	9,696	25,093	33,817	21,274	20,818	22,348
July	40,532	27,995	26,677	16,728	20,456	10,220	21,609	32,016	18,947	19,321	17,074
Aug.	40,957	25,372	27,896	18,589	24,098	14,194	26,689	25,285	21,807	20,156	21,684
Sept. ...	38,333	20,165	27,390	19,025	23,641	16,208	28,811	22,285	22,770	21,463	.....
Oct.	41,009	23,527	31,461	22,806	21,559	18,026	32,240	23,124	25,811	22,280	.....
Nov.	38,845	22,966	29,232	21,666	21,731	18,488	31,748	23,544	23,441	21,860	.....
Dec.	35,513	20,488	27,206	23,862	20,954	17,960	28,757	20,987	22,983	20,541	.....
Total ...496,412	372,812	339,724	263,711	279,500	175,643	303,663	332,378	277,736	271,251	.....	
Aver. 41,368	31,068	28,310	21,976	23,292	14,637	25,297	27,615	23,145	22,604	.....	

Mine Production of Copper in United States

(U. S. Bureau of Mines)

(In short tons)

	Eastern	Missouri	Western	Total
1949				
Ttl.	32,955	3,670	716,121	752,750
1950				
Ttl.	40,105	2,982	866,250	885,942
1951				
Ttl.	41,119	2,422	884,788	928,330
1952				
Ttl.	36,758	1,726	885,985	924,469
1953				
June	3,128	173	70,334	73,635
July	3,440	183	72,869	76,492
Aug.	3,049	143	72,386	75,531
Sept.	3,029	199	72,214	75,442
Oct.	3,604	219	76,146	80,005
Nov.	3,043	180	71,942	75,165
Dec.	3,482	170	73,367	77,019
Ttl.	38,900	2,237	885,174	926,448
1954				
Jan.	3,077	147	71,473	74,697
Feb.	2,949	183	62,167	65,299
Mar.	3,560	148	67,581	71,289
Apr.	3,047	153	65,183	68,383
May	3,136	141	68,147	71,423
June	3,228	144	69,612	72,984
July	2,976	129	63,290	66,345

Average Custom Smelters' Scrap Buying Prices

(Cents per pound del. refinery for 60,000 lbs. of each grade)

	No. 1 Copper Scrap	No. 2 Copper Scrap	Light Copper Scrap	Refinery Brass*
1953				
July	23.56	22.31	21.13	20.38
Aug.	22.08	20.58	19.08	17.06
Sept.	23.50	22.00	20.50	19.00
Oct.	23.875	22.192	20.692	19.00
Nov.	25.00	23.00	21.50	19.50
Dec.	24.46	22.73	21.23	19.50
Av.	33.955	20.405	20.855	20.036
1954				
Jan.	23.48	21.98	20.48	19.22
Feb.	24.00	22.50	21.00	20.00
Mar.	25.84	23.97	22.10	21.09
Apr.	26.42	24.92	23.42	21.77
May	27.04	25.54	24.04	22.58
June	27.125	25.625	24.125	22.875
July	27.09	25.59	24.09	22.93
Aug.	27.12	25.62	24.12	23.74
Sept.	27.51	26.01	24.51	24.62

*Of dry content for material having a dry copper content in excess of 60%.

Brass Ingot Makers' Scrap Copper Buying Prices

(Average Prices)

(Cents per pound for carload lots del. consumers' works)

	No. 1 Copper Scrap	No. 2 Copper Scrap	No. 1 Composition	Heavy Yellow Brass
1953				
July	23.67	22.29	18.28	14.02
Aug.	21.35	20.51	17.86	12.57
Sept.	23.00	21.50	17.25	13.25
Oct.	24.096	22.692	17.481	13.163
Nov.	25.00	23.50	18.25	13.75
Dec.	24.77	22.15	18.17	13.67
Av.	23.524	21.934	18.862	14.127
1954				
Jan.	23.68	22.02	18.08	13.61
Feb.	24.50	23.00	17.75	13.50
Mar.	25.53	24.03	18.49	14.16
Apr.	26.39	24.89	20.02	15.35
May	27.03	25.53	21.50	16.50
June	27.01	25.51	21.50	16.50
July	26.90	25.38	21.40	16.69
Aug.	26.81	25.25	21.64	17.15
Sept.	27.01	25.51	21.85	17.35

United States Lead Statistics of Primary Refineries

(American Bureau of Metal Statistics)
(In tons of 2,000 lbs.)

	Stock At Beginning	Production Primary & Secondary	Total Supply	Stock At End	Domestic Shipments
1948	21,328	511,356	532,684	38,644	490,630
1949	38,644	542,676	581,320	70,424	355,905
1950	70,424	571,763	642,187	35,619	499,637
1951	35,619	486,874	522,493	25,339	496,184
1952	.....	532,778	558,117	.....	492,094
1953					
March	58,949	47,993	106,942	62,371	42,242
April	62,371	46,729	109,100	69,608	39,487
May	69,608	43,187	112,795	63,879	48,914
June	63,879	36,880	100,759	56,569	44,140
July	56,569	40,210	96,779	61,017	35,652
August	61,017	38,022	99,039	58,103	40,836
September	58,103	42,154	100,257	58,490	41,598
October	58,490	44,741	103,231	58,236	44,987
November	58,236	52,562	110,798	67,494	43,234
December	67,494	48,687	116,181	81,152	35,007
Total	.....	533,883	577,443	.....	488,437
1954					
January	81,152	48,518	129,670	92,496	37,108
February	92,496	42,046	134,542	97,981	36,551
March	97,981	50,808	148,789	100,927	47,837
April	100,927	46,730	147,657	100,441	47,161
May	100,441	49,139	149,580	109,302	40,183
June	109,302	42,317	151,619	104,626	46,987
July	104,626	35,716	140,342	93,030	37,402
August	93,030	44,089	137,119	84,429	43,402

In instances where the figures are not in balance it is due to shipments to other than domestic consumers.

Industrial Classification of Domestic Lead Shipments

(American Bureau of Metal Statistics) (In tons of 2,000 lbs.)

	Cable	Amm.	Foil	Batt'y	Brass Making	Sundries	Jobbers	Unclassified
1948	**114,253**	**42,080**	**2,258**	**97,637**	**4,921**	**41,524**	**8,076**	**215,150**
1949	**56,273**	**12,443**	**1,139**	**72,475**	**3,190**	**37,549**	**4,117**	**168,719**
1950	**66,646**	**28,854**	**3,304**	**93,297**	**6,374**	**60,118**	**10,450**	**230,594**
1951	70,149	32,099	2,063	75,337	5,583	48,248	3,550	259,155
Apr.	7,132	2,054	25	5,752	406	3,543	250	18,750
May	6,904	1,350	50	4,875	346	2,703	622	12,694
June	5,981	3,174	60	6,492	235	3,750	668	19,143
July	4,654	3,677	175	8,339	450	6,071	663	25,676
Aug.	6,330	2,401	100	7,773	276	4,540	685	19,164
Sept.	7,899	3,224	80	9,929	226	4,282	458	19,720
Oct.	7,548	2,475	60	7,221	480	3,668	318	19,200
Nov.	5,714	2,434	150	5,855	595	7,927	514	25,072
Dec.	5,536	2,594	110	5,840	385	3,319	253	21,333
Total	74,616	30,809	1,374	77,238	5,160	50,943	5,671	246,283
1953								
Jan.	5,183	1,554	186	5,567	352	3,763	204	18,720
Feb.	6,248	4,509	61	6,098	438	3,267	417	15,773
Mar.	6,175	2,796	323	7,011	415	5,641	509	19,372
Apr.	5,833	3,103	102	8,369	295	3,711	453	17,621
May	6,829	3,450	370	8,480	752	5,118	605	23,310
June	6,420	3,315	290	7,018	528	5,892	196	20,481
July	5,123	3,161	35	6,304	205	5,047	168	15,609
Aug.	5,226	2,335	120	9,435	745	5,382	268	17,325
Sept.	6,494	2,162	105	7,274	1,088	5,261	199	19,015
Oct.	9,612	2,782	160	6,346	307	4,628	1,987	19,165
Nov.	6,920	3,352	312	4,452	385	4,876	982	21,955
Dec.	6,220	1,896	72	3,985	206	3,350	402	18,876
Total	76,283	34,415	2,136	80,339	5,716	55,936	6,390	227,222
1954								
Jan.	6,273	2,955	....	5,077	964	5,051	628	16,160
Feb.	6,040	2,170	....	5,890	798	3,682	254	17,717
Mar.	7,620	2,405	252	6,663	149	6,818	492	23,438
Apr.	6,207	2,550	361	6,341	308	5,194	342	25.798
May	6,030	2,310	276	5,635	250	4,621	1,020	20,041
June	6,116	3,700	122	5,711	406	6,525	1,114	23,293
July	4,000	1,500	...	6,690	415	4,121	861	19,608
Aug.	8,799	3,358	146	6,111	838	5,377	1,152	17,621

Lead Prices at New York

(Common Grade)
Monthly Average Prices
(Cents per pound)

	1951	1952	1953	1954
Jan.	17.00	19.00	14.192	13.26
Feb.	17.00	19.00	13.50	12.82
Mar.	17.00	19.00	13.404	12.94
Apr.	17.00	18.92	12.64	13.91
May	17.00	15.731	12.75	14.00
June	17.00	15.26	13.413	14.11
July	17.00	16.00	13.683	14.00
Aug.	17.00	16.00	14.00	14.06
Sept.	17.00	16.00	13.74	14.60
Oct.	18.926	14.426	13.50	....
Nov.	19.00	14.18	13.50	....
Dec.	19.00	14.125	13.50	....
Av.	17.494	16.47	13.485	....

Lead Sheet Prices

(To Jobbers, Full Sheets)
Monthly Average Prices
(Cents per pound)

	1951	1952	1953	1954
Jan.	22.00	24.00	19.192	18.26
Feb.	22.00	24.00	18.50	17.82
Mar.	22.00	24.00	18.404	17.94
Apr.	22.00	23.92	17.64	18.91
May	22.00	20.81	17.75	19.00
June	22.00	20.65	19.413	19.11
July	22.00	21.00	18.683	19.00
Aug.	22.00	21.00	19.00	19.06
Sept.	22.00	21.00	18.74	19.60
Oct.	22.44	19.48	18.50	....
Nov.	24.00	19.18	18.50	....
Dec.	24.00	19.125	18.50	....

Battery Shipments

The following table shows replacement battery shipments in the United States as compiled by the Business Information Division of Dun & Bradstreet, Inc., for the Association of American Battery Manufacturers.

(In thousands of units)

	1951	1952	1953	1954
Jan.	1,979	1,639	1,571	1,788
Feb.	1,469	963	1,162	1,422
Mar.	1,176	769	1,202	1,194
Apr.	1,892	850	1,245	1,150
May	1,480	1,137	1,455	1,391
June	1,443	1,535	2,004	1,834
July	1,705	2,526	2,528	2,288
Aug.	2,239	2,905	2,707	2,479
Sept.	2,172	2,874	2,852	....
Oct.	2,640	3,112	2,825	....
Nov.	2,232	2,168	2,173	....
Dec.	1,792	1,975	1,890	....
Total	22,219	22,453	23,614	....

Lead Stocks at Primary U. S. Smelters and Refiners

(American Bureau of Metal Statistics)

(In tons of 2,000 lbs.)

	In ore and matte and in process at smelters	— In base bullion (lead content) — At smelters & refineries	In transit to refineries	In process at refineries	Refined pig lead	Anti-monial lead	Total Stocks
1949							
Jan. 1	76,373	9,697	4,101	17,939	29,050	9,594	146,754
1950							
Jan. 1	95,481	16,364	3,696	15,651	61,329	9,095	201,526
1951							
Jan. 1	69,757	11,993	4,959	15,341	28,894	6,725	137,669
1952							
Jan. 1	67,817	11,315	3,909	15,700	18,518	6,821	124,080
1953							
Feb. 1	62,565	18,181	1,757	19,090	41,188	11,572	154,353
Mar. 1	61,820	11,651	4,784	21,853	48,213	10,736	159,057
Apr. 1	61,036	13,656	2,506	21,464	50,887	11,484	161,033
May 1	56,867	14,490	1,936	20,010	58,360	11,248	162,911
June 1	56,892	13,299	3,181	20,135	53,115	10,764	157,386
July 1	65,655	14,237	2,250	20,865	42,234	14,335	159,576
Aug. 1	69,771	15,742	2,907	22,290	46,770	14,247	171,727
Sept. 1	83,673	15,332	2,964	22,960	43,355	14,748	183,032
Oct. 1	81,377	16,921	3,549	24,717	42,613	15,877	185,054
Nov. 1	79,283	19,446	2,664	26,785	42,494	15,742	186,414
Dec. 1	73,348	19,916	2,868	24,303	50,996	16,498	187,929
1954							
Jan. 1	67,688	17,920	2,867	26,713	65,036	16,116	196,340
Feb. 1	63,032	12,790	3,406	28,050	77,805	14,691	199,774
Mar. 1	63,175	12,226	4,482	28,140	83,183	14,798	206,044
Apr. 1	68,520	13,377	2,631	28,841	88,942	11,985	214,296
May 1	67,270	14,624	2,715	28,257	88,464	11,977	213,307
June 1	64,103	10,906	1,348	27,105	97,420	11,882	212,764
July 1	61,669	12,241	3,660	26,046	94,828	9,798	208,242
Aug. 1	63,093	17,196	2,592	30,301	80,820	12,210	206,212
Sept. 1	63,851	18,688	2,903	29,792	72,150	12,279	198,663

Receipts of Lead in Ore and Scrap

By U. S. Smelters (a)

(American Bureau of Metal Statistics) (In tons of 2,000 lbs.)

	Receipts of lead in ore			Receipts of lead in scrap etc. (b)	Total receipts in ore, & scrap
	United States	Foreign	Total		
1947 Total	401,336	52,347	453,683	71,480	525,163
1948 Total	387,967	70,994	458,961	47,898	506,859
1949 Total	420,122	93,061	513,183	58,447	571,630
1950 Total	430,072	76,160	506,232	43,666	549,898
1951 Total	376,851	75,515	452,366	36,510	488,876
1952					
August	32,393	11,166	43,559	2,560	46,119
September	32,919	5,095	38,014	3,549	41,563
October	33,770	6,925	40,695	3,707	44,402
November	30,537	14,009	44,546	2,663	47,209
December	32,769	10,317	43,086	3,690	46,776
Total	405,990	98,276	504,266	41,845	546,111
1953					
January	30,697	10,191	40,888	3,887	44,775
February	30,388	10,008	40,396	2,935	43,331
March	32,660	12,974	45,634	2,513	48,147
April	31,557	8,895	40,452	2,675	43,127
May	28,793	11,856	40,649	2,019	42,668
June	30,753	11,611	42,364	3,441	45,805
July	27,339	17,082	44,421	4,061	48,482
August	27,709	19,548	47,257	5,562	52,819
September	27,637	12,190	39,827	4,625	44,452
October	27,934	17,063	44,997	3,680	48,677
November	26,904	13,603	40,507	4,016	44,523
December	28,812	10,767	39,579	3,580	43,159
Total	351,183	155,788	506,971	42,994	549,965
1954					
January	26,202	13,309	39,511	3,162	42,673
February	29,342	10,888	40,230	3,373	43,603
March	31,520	12,006	43,526	3,550	47,076
April	28,508	13,173	41,681	4,524	46,205
May	25,762	11,141	36,903	4,484	41,387
June	28,266	11,750	40,016	3,300	43,316
July	26,975	14,984	41,959	3,742	45,701

(a) Receipts of lead in ore are computed on the basis of recoverable lead. Owing to the estimational factor in this, which is probably on the low side, and also to the possibility that some lead receipts may escape attention, these monthly totals probably underrun the actual production of pig lead. (b) inclusive only of scrap smelted in connection with ore, plus some scrap received by primary refiners.

N. Y. Lead Price Changes

(Effective Date)

1949		Nov. 3	14.00
July 25	14.25	Nov. 10	14.20
July 27	14.50	Nov. 11	14.50
Aug. 2	14.75	Nov. 20	14.25
Aug. 18	15.125	Nov. 24	14.00
Sept. 26	14.75	Dec. 22	14.25
Oct. 3	14.25	Dec. 29	14.50
Oct. 7	13.75	Dec. 31	14.75
Oct. 14	13.00	1953	
Nov. 10	12.75	Jan. 7	14.50
Nov. 16	12.50	Jan. 12	14.00
Nov. 21	12.00	Feb. 2	13.50
1950		Mar. 4	13.00
Mar. 9	11.00	Mar. 10	13.50
Mar. 14	10.50	Apr. 7	13.00
Apr. 20	10.75	Apr. 16	12.50
Apr. 26	11.00	Apr. 21	12.00
May 4	11.25	Apr. 29	12.50
May 10	11.50	May 18	12.75
May 11	12.00	May 19	13.00
June 23	11.50	May 26	13.15
1951		June 11	13.50
June 28	11.00	July 20	13.75
July 12	11.50	July 23	14.00
July 13	12.00	Sept. 16	13.50
Aug. 15	13.00	1954	
Aug. 21	14.00	Jan. 18	13.00
Sept. 1	15.00	Feb. 18	12.50
Sept. 8	16.00	Mar. 9	12.75
Oct. 2	**19.00	Mar. 10	13.00
Oct. 31	17.00	Mar. 26	13.25
1952		Mar. 29	13.50
Apr. 29	18.00	Apr. 1	13.75
May 2	17.00	Apr. 12	14.00
May 12	15.00	June 2	14.25
June 23	15.50	June 15	14.00
June 24	16.00	Aug. 25	14.25
Oct. 7	15.00	Sept. 7	14.50
Oct. 14	14.00	Sept. 15	14.75
Oct. 22	13.50	Oct. 4	15.00

*OPA Ceiling. †Returned to OPA Ceiling. **OPS Ceiling.

Antimonial Lead Stocks at Primary Refineries

(A. B. M. S.)

(In tons of 2,000 lbs.)

End of:	1951	1952	1953	1954
Jan.	7,293	7,430	11,572	14,961
Feb.	8,738	7,805	10,736	14,798
Mar.	7,894	9,169	11,484	11,985
Apr.	8,269	9,646	11,248	11,977
May	8,519	9,931	10,764	11,882
June	7,044	10,323	14,335	9,798
July	8,854	10,049	14,247	12,210
Aug.	7,215	11,253	14,748	12,279
Sept.	6,998	9,874	15,877	.....
Oct.	6,543	10,967	15,742	.....
Nov.	6,552	11,143	16,498	.....
Dec.	6,821	12,155	16,116	.....

Antimonial Lead Production by Primary Refineries

(A. B. M. S.)

(In tons of 2,000 lbs.)

End of:	1951	1952	1953	1954
Jan.	6,356	5,767	2,937	3,768
Feb.	6,504	4,395	3,682	4,257
Mar.	5,617	3,800	5,353	4,475
Apr.	5,406	3,162	5,027	4,470
May	4,378	2,347	6,497	4,373
June	4,361	5,303	9,270	3,796
July	7,624	6,352	5,259	5,991
Aug.	2,716	6,492	4,668	6,455
Sept.	4,227	4,748	5,509	....
Oct.	4,862	5,867	5,100	....
Nov.	6,943	4,674	5,400	....
Dec.	6,317	3,947	3,060	....
Total	65,311	56,854	61,762	.....

U. S. Lead Consumption

(Bureau of Mines — In Short Tons)

Metal Products	1954 Jan.–July	June	July
Ammunition	22,772	3,452	2,323
Bearing metals	15,472	1,912	1,655
Brass and bronze	10,754	1,591	1,118
Cable covering	73,084	11,804	6,357
Calking lead	27,356	4,320	4,695
Casting metals	4,984	711	879
Collapsible tubes	5,347	797	557
Foil	2,127	292	303
Pipes, traps and bends	14,358	2,272	2,073
Sheet lead	14,512	1,953	2,133
Solder	41,411	7,152	5,470
Storage batteries (antimonial lead)	97,170	14,964	13,868
(oxides)	92,411	14,476	12,954
Terne metal	768	72	110
Type metal	15,255	2,215	1,917
Total	437,772	67,983	56,412
Pigments:			
White lead	10,468	1,802	1,565
Red lead and litharge	45,466	7,212	4,700
Pigment colors	8,092	1,259	1,085
Other†	5,546	798	1,038
Total	69,572	11,071	8,388
Chemicals:			
Tetraethyl lead	96,156	13,437	14,036
Misc. chemicals	3,840	‡221	...
Total	99,996	‡13,658	14,036
Misc. Uses:			
Annealing	2,137	304	227
Galvanizing	965	146	174
Lead plating	405	64	80
Weights and ballast	3,977	645	532
Total	7,484	1,159	1,013
Other Uses Unclassified	8,217	1,066	1,030
Total Reported	623,041	‡94,937	80,879
Estimated unreported consumption	7,000	1,000	1,000
Total	630,000	96,000	82,000
Daily average*	2,972	3,200	2,645

† Includes lead content of leaded zinc oxide production.
‡ Revised figure.
* Based on number of days in month without adjustment for Sundays or holidays.

U. K. Lead Consumption

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 pounds)

	1952	1953	1954
Jan.	27,986	27,192	25,786
Feb.	25,096	24,552	25,837
Mar.	24,695	25,226	29,442
Apr.	22,359	24,869	25,820
May	24,093	24,350	28,637
June	21,903	23,612	28,574
July	23,746	23,455	25,968
Aug.	18,542	20,599	25,671
Sept.	24,902	27,426	.....
Oct.	28,946	28,014	.....
Nov.	26,996	27,358	.....
Dec.	24,056	26,582	.....
Total	293,320	303,753	.....

American Antimony

Monthly Average Prices in bulk, f.o.b. Laredo (Cents per lb. in ton lots)

	1951	1952	1953	1954
Jan.	35.46	50.00	34.50	28.50
Feb.	42.00	50.00	34.50	28.50
Mar.	42.00	50.00	34.50	28.50
Apr.	42.00	48.85	34.50	28.50
May	42.00	42.077	34.50	28.50
June	42.00	39.00	34.50	28.50
July	42.00	39.00	34.50	28.50
Aug.	42.00	39.00	34.50	28.50
Sept.	42.00	39.00	34.50	28.50
Oct.	42.00	39.00	34.50	....
Nov.	44.738	35.61	33.68	....
Dec.	50.00	34.50	28.50	....
Av.	42.354	42.17	33.93	....

Lead Imports and Exports by Principal Countries

(A.B.M.S.)

Reported in pigs, bars, etc.; metric tons except where otherwise noted.

IMPORTS

	1954 May	June	July
U. S.† (s.t.)	29,030	30,576	28,376
Canada (s.t.)	51	...	...
Belgium	1,105	...	...
Denmark	1,523	1,742	615
France	4,878	5,728	3,739
Germany‡	5,320	4,462	...
Italy*	2,582	...	...
Netherlands	3,082	1,529	...
Norway	161	...	...
Sweden	1,139	406	1,436
Switzerland	643	2,351	657
U. K. (l.t.)	17,299	15,581	13,650
India (l.t.)	1,069	897	...

EXPORTS

U. S.† (s.t.)	49	95	38
Canada (s.t.)	11,483	12,017	13,153
Belgium	4,335	...	...
Denmark	795	944	679
France	4,807	603	881
Germany‡	1,861	1,390	...
Italy*	2	...	...
Netherlands	101	652	...
Switzerland	15	15	8
N. Rhodesia (l.t.)	921	861	...

† Refined.
‡ Includes scrap.
* Includes copper alloys.

Consumers' Lead Stocks, Receipts and Consumption

(Bureau of Mines — In Short Tons)

	Stocks at plants on June 30†	Received during July	Consumed during July	Stocks at plants on July 31
Refined soft lead	79,526	57,766	54,156	83,136
Antimonial lead	18,313	20,515	18,484	20,344
Unmelted white scrap	2,814	1,403	1,370	2,847
Percentage metals	8,214	3,857	2,286	9,785
Copper-base scrap	1,672	1,351	1,212	1,811
Drosses, residues, etc.	8,872	1,946	2,348	8,470
Total	119,411	86,838	‡79,856	126,393

† Revised.
‡ Excludes 1023 tons of lead contained in leaded zinc oxide production.

Consumption of Lead by Class of Product

(Bureau of Mines — In Short Tons)

	Soft and Antimonial Lead	Scrap, Percentage Metal, Drosses, Etc.	Total
Metal products	49,329	7,083	56,412
Pigments	7,340	25	7,365
Chemicals	14,036		14,036
Miscellaneous	1,013		1,013
Unclassified	922	103	1,030
Total	72,640	7,216	‡79,856

‡ Excludes 1023 tons of lead contained in leaded zinc oxide production.

French Lead Imports

(A.B.M.S.)

(In metric tons)

	1954 June	July	Aug.
Ore (gross weight)	9,353	6,290	8,378
Greece	...	395	...
Algeria	...	2	523
Fr. Morocco	8,563	5,893	6,837
Fr. Equat. Africa	790	...	1,018
Non-argentiferous	5,728	3,739	4,174
Belgium	304	57	...
Germany (W.)	229	480	23
Greece	200	...	...
Spain	1,000	500	...
Algeria	35	...	2
Fr. Morocco	1,679	1,862	1,803
Tunisia	2,281	840	2,346
Antimonial lead	299	6	10

U. K. Lead Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

	1954 June	July	Aug.
(Gross Weight) Lead and lead alloys	15,581	13,650	11,810
Australia	10,703	5,330	8,010
Canada	2,800	6,938	2,500
Yugoslavia	175	400	500
United States	650	200	300
Peru	1,100	775	500
Other countries	153	7	...

Domestic Zinc Statistics

American Zinc Institute

Commencing with January, 1948, all regularly operating U. S. primary and secondary smelters are included in this report. Production from foreign ores also is included.

(Tons of 2,000 lbs.)

	Stock Beginning	Production	Shipments: Domestic	Shipments: Export & Drawback	Shipments: Gov't Acc't	Shipments: Total	Stock at End	Unfilled Orders at End	Daily Avg. Prod.
1947 Total		848,027	698,281	117,305	140,230	955,816			
1947 Monthly Avg.		70,669	58,190	9,775	11,686	79,651			2,323
1948 Total		850,015	770,396	69,910	57,598	897,904			
1948 Monthly Avg.		70,842	64,200	5,826	4,800	74,826			2,323
1949 Total		870,113	648,285	56,929	91,526	796,740			
1949 Monthly Ave.		72,509	54,024	4,744	7,627	66,395			2,384
1950 Total		910,354	849,246	18,189	128,256	995,691			
1950 Monthly Avg.		75,863	70,770	1,516	10,688	82,974			2,494
1951 Total		931,833	836,800	32,067	39,949	918,816			
1951 Monthly Avg.		77,653	69,733	3,506	3,329	76,568			2,553
1952									
June	33,144	77,463	35,769	7,757	3,739	47,265	63,342	39,428	2,582
July	63,342	76,930	38,714	3,146	1,493	43,353	96,919	46,547	2,482
Aug.	96,919	78,167	72,963	4,091	1,381	78,435	96,651	44,522	2,521
Sept.	96,651	76,019	69,343	3,654	5,132	78,129	94,541	42,791	2,534
Oct.	94,541	80,588	71,659	3,827	4,301	79,787	95,342	37,533	2,600
Nov.	95,342	78,563	81,439	4,625	4,692	90,756	83,149	32,255	2,619
Dec.	83,149	81,363	71,175	2,615	3,562	77,352	86,160	45,264	2,627
Total		961,430	803,343	56,202	36,626	896,171			
Monthly Avg.		80,119	66,945	4,683	3,052	74,681			2,627
1953									
Jan.	87,160	81,994	77,573	2,205	901	80,679	88,475	39,782	2,645
Feb.	88,475	76,899	67,729	1,997	1,984	71,710	93,664	37,172	2,746
Mar.	93,664	83,485	72,388	1,315	3,582	77,285	99,864	54,524	2,693
Apr.	99,864	80,459	78,211	215	7,617	86,043	94,280	38,722	2,681
May	94,280	82,422	75,648	259	8,343	84,250	92,452	43,271	2,659
June	92,452	81,617	72,612	36	4,136	76,784	97,285	44,307	2,721
July	97,285	80,825	69,498	94	4,612	74,204	103,906	32,327	2,607
Aug.	103,906	83,241	65,450	428	3,372	69,250	117,897	32,988	2,685
Sept.	117,897	81,211	55,167	165	2,215	57,547	141,561	27,323	2,704
Oct.	141,561	84,031	65,470	482	1,223	67,175	158,417	25,950	2,711
Nov.	158,417	75,891	63,617	2,848	2,220	68,685	165,623	29,437	2,536
Dec.	165,623	79,116	55,487	6,282	2,127	63,896	180,843	35,466	2,552
Total	.....	971,191	818,850	16,326	42,332	877,508	.....	.....	2,661
Monthly Avg.		80,933	68,238	1,361	3,528	73,126			2,661
1954									
Jan.	180,843	78,561	54,865	3,681	2,146	60,692	198,712	26,378	2,534
Feb.	198,712	68,020	57,781	7,179	1,778	66,738	199,994	28,943	2,429
Mar.	199,994	71,186	66,929	1,703	1,448	70,080	201,100	31,702	2,296
Apr.	201,100	70,255	67,512	977	2,489	70,616	200,740	31,702	2,342
May	200,740	73,645	61,859	670	2,037	64,566	209,828	38,624	2,376
June	209,828	71,466	72,257	2,297	5,685	80,239	201,055	33,100	2,385
July	201,124	70,749	59,157	1,475	13,214	73,846	198,027	38,899	2,282
Aug.	198,027	71,810	58,188	1,525	16,871	76,584	193,253	41,059	2,316
Sept.	193,253	60,092	64,526	1,072	12,265	77,863	115,482	48,818	2,003

U. S. Consumption of Slab Zinc

Bureau of Mines

By Industries (Short Tons)

	Galvanizers	Zn-base alloy	Brass products	Rolled zinc	Zinc oxide & other	Total
1947 Total	359,583	215,002	108,591	71,151	26,328	780,675
1948 Total	365,979	232,482	107,422	76,672	24,247	806,802
1949 Total	348,544	197,387	84,257	55,100	17,643	702,931
1950 Total	434,094	281,385	136,451	67,779	27,656	947,365
1951 Total	386,373	266,442	141,456	64,000	28,738	887,009
1952						
July	12,160	13,422	8,137	3,339	1,817	38,875
August	34,840	17,314	11,782	4,814	1,859	70,609
September	37,394	21,178	13,682	4,478	2,097	78,829
October	40,466	23,286	17,258	4,938	2,937	88,885
November	36,333	21,493	14,776	4,372	3,087	80,061
December	36,717	25,146	16,212	4,699	3,217	85,991
Total	375,563	236,022	155,311	51,508	30,885	849,289
1953						
January	36,974	27,465	16,739	4,593	3,332	89,103
February	34,882	27,092	14,880	3,914	3,330	84,098
March	37,375	30,651	17,494	5,360	3,572	94,452
April	36,181	29,790	17,162	5,109	3,302	91,544
May	34,790	27,398	17,748	5,082	3,408	88,426
June	32,758	27,099	17,564	5,309	3,129	85,859
July	30,535	22,832	12,361	4,053	3,250	73,031
August	33,074	22,740	15,739	4,440	3,107	79,100
September	33,465	21,745	13,374	4,329	3,221	76,134
October	34,354	22,854	13,709	4,077	3,077	78,071
November	29,989	21,408	9,779	3,887	2,482	67,545
December	28,785	24,272	10,758	3,631	2,827	70,273
Total	403,162	305,346	177,301	53,784	38,037	977,636
1954						
January	26,731	21,804	10,266	4,014	3,029	65,844
February	27,243	22,184	8,486	4,035	2,230	64,178
March	31,298	26,549	9,026	4,246	2,520	73,639
April	32,970	24,176	8,181	3,933	2,395	71,655
May	32,935	22,081	8,450	3,848	3,028	70,342
June	34,827	23,534	8,860	4,214	2,880	74,665
July	33,897	17,214	6,135	3,006	2,712	63,314
August	38,225	19,891	8,349	4,030	2,684	73,529

Prime Western Zinc Prices

(East St. Louis)

Average Prices, Cents Per Pound

	1951	1952	1953	1954
Jan.	17.50	19.50	12.596	9.76
Feb.	17.50	19.50	11.48	9.375
Mar.	17.50	19.50	11.024	9.66
Apr.	17.50	19.50	11.00	10.25
May	17.50	19.50	11.00	10.29
June	17.50	15.74	11.00	10.96
July	17.50	15.00	11.00	11.00
Aug.	17.50	14.077	11.00	11.00
Sept.	17.50	14.01	10.18	11.44
Oct.	19.426	13.306	10.00	....
Nov.	19.50	12.50	10.00	....
Dec.	19.50	12.50	10.00	....
Av.	17.994	16.22	10.857	....

High Grade Zinc Prices

(Delivered)

N. Y. Monthly Averages

(Cents per pound)

	1951	1952	1953	1954
Jan.	18.85	20.85	13.946	11.11
Feb.	18.85	20.85	12.83	10.725
Mar.	18.85	20.85	12.379	11.01
Apr.	18.85	20.85	12.35	11.60
May	18.85	20.85	12.35	11.64
June	18.85	17.09	12.35	12.31
July	18.85	16.35	12.47*	12.35
Aug.	18.85	15.427	12.60	12.35
Sept.	18.85	15.36	11.53	12.79
Oct.	20.776	14.656	11.35	....
Nov.	20.85	13.85	11.35	....
Dec.	20.85	13.85	11.35	....
Av.	19.344	17.57	12.207	....

*East of Continental Divide.

U. K. Zinc Consumption

(British Bureau of Non-Ferrous Metal Statistics)

	1952	1953	1954
Jan.	26,206	21,179	25,615
Feb.	24,454	20,311	25,286
Mar.	24,697	21,662	29,001
Apr	22,072	20,421	26,084
May	21,938	20,105	27,551
June	19,637	21,141	29,665
July	18,807	19,226	23,012
Aug.	16,511	17,341	22,102
Sept.	21,192	26,465	.....
Oct.	22,264	26,865	.....
Nov.	19,570	26,982	.....
Dec.	18,256	26,689	.....
Total	255,657	269,170	.....

Mine Production of Zinc in United States

(U. S. Bureau of Mines)

(In short tons)

	Eastern States	Central States	Western States	Total U.S.*
1949				
Total	156,334	78,284	349,264	583,882
1950				
Total	170,726	82,300	365,175	618,207
1951				
Total	188,525	92,457	398,128	679,111
1952				
Total	185,939	94,410	385,652	666,001
1953				
Mar.	16,954	7,529	27,197	51,680
Apr.	16,215	7,459	27,429	51,103
May	14,864	6,851	26,075	47,790
June	15,628	5,015	25,722	46,365
July	15,640	2,771	23,894	42,305
Aug.	14,288	3,104	23,573	40,965
Sept.	14,169	2,841	22,178	39,188
Oct.	14,741	2,821	21,209	38,771
Nov.	14,524	1,990	19,946	36,460
Dec.	14,709	1,646	21,390	37,745
Total	183,612	57,300	293,818	534,730
1954				
Jan.	13,772	4,575	20,505	38,852
Feb.	14,379	4,733	19,010	38,122
Mar.	15,242	5,462	20,548	41,252
Apr.	14,188	4,863	20,894	39,945
May	13,746	5,210	21,075	40,031
June	14,563	5,410	20,463	40,436
July	13,866	5,309	19,501	38,676
Aug.	14,867	5,390	18,430	38,687

* Includes Alaskan output in some months.

Mine Production of Lead in United States

(U. S. Bureau of Mines)

(In short tons)

	Eastern States	Central States	Western States	Total U.S.*
1949				
Ttl.	8,719	156,400	238,843	404,032
1950				
Ttl.	8,470	163,489	257,766	429,875
1951				
Ttl.	7,426	152,258	230,723	390,428
1952				
Ttl.	11,252	150,302	228,607	390,161
1953				
Mar	1,063	12,417	17,861	31,347
Apr.	1,005	12,943	17,098	31,052
May	911	12,268	15,866	29,045
June	793	11,700	15,856	28,349
July	764	11,277	14,323	26,364
Aug.	596	10,565	14,922	26,083
Sept.	616	10,595	15,263	26,474
Oct.	802	11,065	14,785	26,652
Nov.	813	10,022	13,836	24,671
Dec.	786	11,592	14,729	27,107
Ttl.	9,970	136,650	188,776	335,412
1954				
Jan.	731	10,937	13,027	24,695
Feb.	684	11,709	15,050	27,443
Mar.	785	12,835	15,889	29,539
Apr.	752	11,786	14,306	26,844
May	738	10,970	13,687	25,395
June	782	11,446	13,981	26,209
July	681	11,253	13,357	25,291
Aug.	850	11,449	14,595	26,894

* Includes Alaskan output in some months.

Mine Production of Gold in United States

(U. S. Bureau of Mines)

(In fine ounces)

	Eastern States	Western States	Alaska*	Total
1949				
Ttl.	2,008	1,726,089	220,903	1,949,000
1950				
Ttl.	2,061	2,108,756	282,866	2,391,683
1951				
Ttl.	2,511	1,749,580	205,452	1,957,543
1952				
Ttl.	1,948	1,650,660	233,428	1,886,036
1953				
Aug.	97	140,680	39,174	179,951
Sept.	129	147,256	48,544	195,929
Oct.	120	147,753	41,224	189,097
Nov.	144	139,473	30,591	170,208
Dec.	114	137,129	20,000	157,243
Ttl	1,529	1,689,668	273,479	1,964,676
1954				
Jan.	105	137,310	1,585	139,000
Feb.	126	130,410	1,212	131,748
Mar.	158	141,266	7,893	149,317
Apr.	69	134,616	3,538	138,223
May	132	126,844	13,939	140,915
June	147	140,243	38,790	179,180
July	155	133,348	29,641	163,144

* Alaska totals based on mint and smelter receipts.

Mine Production of Recoverable Silver in United States

(U. S. Bureau of Mines)

(In Fine Ounces)

	Eastern States	Missouri	Western States	Alaska*	Total
1951 Total	121,485	237,213	39,073,645	27,760	39,463,661
1952 Total	158,004	391,707	38,515,679	31,825	**39,100,923
1953					
July	15,363	32,722	2,951,093	5,817	3,004,995
August	10,184	230	3,006,888	5,134	3,022,436
September	15,987	420	3,042,472	6,441	3,065,320
October	12,546	500	3,124,441	5,531	3,143,018
November	18,126	400	2,931,892	4,236	2,954,654
December	10,112	354	3,021,387	3,000	3,034,853
Total	158,707	223,500	36,354,685	39,111	36,776,003
1954					
January	11,662	25,220	2,906,976	256	2,944,074
February	9,333	20,327	2,981,326	178	3,011,603
March	15,643	21,825	3,314,479	1,078	3,353,025
April	11,103	17,795	3,093,436	547	3,124,881
May	11,591	17,997	3,270,529	1,970	3,302,087
June	10,667	18,533	3,197,890	5,275	3,232,365
July	11,211	18,702	2,902,770	3,910	2,936,593

*Alaska totals based on mint and smelter receipts.
**Includes a total of 3,708 oz. from Illinois.

Production of Primary Aluminum in the U. S.*

(U. S. Bureau of Mines)

(In short tons)

	1947	1948	1949	1950	1951	1952	1953	1954
Jan.	50,045	48,767	54,356	50,023	67,954	76,934	89,895	116,247
Feb.	47,002	45,699	49,749	54,493	62,740	72,374	92,649	110,483
Mar.	43,032	51,874	54,852	58,747	70,022	77,069	104,460	122,339
Apr.	51,007	53,277	54,076	58,024	67,701	76,880	102,071	120,434
May	51,116	55,450	56,909	51,929	67,720	80,803	105,464	125,138
June	46,259	48,557	54,184	60,400	67,454	77,476	104,152	120,758
July	47,998	52,937	55,777	63,518	72,698	78,368	109,285	126,161
Aug.	47,054	54,953	52,001	63,006	73,816	85,175	110,545	125,296
Sept.	43,228	53,255	49,742	54,449	69,429	76,882	109,333	.....
Oct.	43,959	54,526	45,790	62,915	72,647	77,312	108,219	.....
Nov.	43,461	50,174	35,865	62,276	72,246	74,639	105,636	.....
Dec.	47,589	53,474	34,161	65,897	72,454	83,419	110,291	.....
Total	571,750	623,456	603,462	718,622	836,881	937,330	1,252,000	.....

*Based on producers' reports to War Production Board to July, 1946. Thereafter to Bureau of Mines. The monthly figures are preliminary in nature and will not add to the totals derived from the Bureau's annual industry canvass.

U. S. Silver Production*

(A.B.M.S.)

(In thousands of ounces; commercial bars, 0.999 fine, and other refined forms)

	Dom.†	For.	Total
1949 Total	34,559	28,226	62,785
1950 Total	42,068	37,656	79,724
1951 Total	39,967	33,837	73,804
1952 Total	40,245	36,653	76,898
1953			
March	3,175	3,471	6,646
April	3,018	3,193	6,211
May	2,823	3,095	5,918
June	1,909	2,536	4,445
July	2,525	2,533	5,058
August	2,652	4,334	6,986
September	2,301	2,613	4,914
October	3,558	3,431	6,989
November	2,551	4,707	7,218
December	3,751	1,811	5,562
Total	34,697	37,764	72,461
1954			
January	3,372	2,674	6,046
February	3,163	3,729	6,957
March	3,775	3,729	7,504
April	3,643	3,708	7,351
May	3,229	3,335	6,564
June	3,609	3,212	6,821
July	1,997	2,940	4,937

* The separation between silver of foreign and domestic origin on the basis of refined bars and other refined forms is only approximate.
† Includes purchases of crude silver by the U. S. Mint.

Average Silver Prices

(Cents per fine ounce)

	1951	1952	1953	1954
Jan.	88.71	88.00	84.44	85.25
Feb.	90.16	88.00	85.25	85.25
Mar.	90.16	88.00	85.25	85.25
Apr.	90.16	88.00	85.25	85.25
May	90.16	85.405	85.25	85.25
June	88.553	82.75	85.25	85.25
July	90.16	82.886	85.25	85.25
Aug.	90.16	83.25	85.25	85.25
Sept.	90.16	83.25	85.25	....
Oct.	88.14	83.25	85.25	....
Nov.	88.00	83.25	85.25	....
Dec.	88.00	83.25	85.25	....
Av	89.377	84.94	85.183	....

Note — The averages are based on the price of refined bullion imported on or after August 31, 1942.

U. S. Copper Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1954		
	May	June	July
Ore, conc., etc. (cont.)	616	53	283
Refined ingots, bars, etc.†	22,686	20,216	19,811
Canada	...	1	28
Argentina	...	...	996
Brazil	3,655	3,625	2,804
Austria	110	105	56
Belgium	14	...	...
Denmark	56	179	...
France	1,478	5,195	6,328
Germany (W.)	4,323	4,030	3,061
Italy	2,352	960	922
Netherlands	2,071	1,499	2,367
Norway	336	...	739
Sweden	112	...	112
Switzerland	1,567	336	1,063
U. Kingdom	2,493	2,627	341
India	823	588	728
Japan	1,126	32	191
Australia	2,128	1,000	...
Other countries	42	39	75
Total Exports:			
Crude & refined	23,302	20,269	20,099
Pipes and tubes	88	132	85
Plates & sheets	14	12	3
Rods	6	24	33
Wire, bare	631	602	290
Building wire and cable‡	350	362	323
Weatherproof wire‡	161	17	21
Insulated copper wire, n.e.s.‡	697	2,672	1,233

† Includes exports of refined copper resulting from scrap that was reprocessed on toll for account of the shipper.

‡ Gross weight; n.e.s. — not elsewhere specified.

U. S. Zinc Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1954		
	May	June	July
Slabs, blocks, etc.	862	1,058	1,639
Canada	5	...	1
Mexico	...	...	151
Brazil	181	386	224
Chile	3	...	...
Belgium	336	280	...
France	56	...	...
Germany (W.)	...	56	56
Netherland	...	...	336
Sweden	...	112	...
Switzerland	280	224	280
U. Kingdom	...	...	224
Korea	...	...	143
Other countries	1	...	†224
Total Exports:			
Ore, conc., slab, blocks	862	1,058	1,639
Scrap: ashes, dross & skimmings	531	1,898	2,121
Rolled in sheets, plates & strips‡	326	332	215
Alloys ex brass and bronze	33	72	83
Die castings	64	29	18

† Includes photoengraving sheets and plates.

‡ To Italy.

U. S. Copper Imports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1954		
	May	June	July
Ore, matte & regulus (cont.)	10,591	7,935	9,841
Canada	1,709	2,991	3,159
Mexico	1,020	1,268	903
Cuba	2,615	1,300	1,321
Bolivia	303	441	64
Chile	1,147	879	1,042
Peru	951	661	758
Philippines	1,835	9	2,117
U. of S. Africa	635	322	411
Australia	339	26	45
Other countries	37	38	21
Blister copper (content)	21,085	27,047	20,596
Canada	1,507	...	...
Mexico	2,169	1,933	2,820
Chile	8,591	14,909	11,689
Belg. Congo	1,102	1,091	535
N. Rhodesia	4,223	6,114	3,340
U. of S. Africa	1,664	1,666	1,665
Turkey	548	...	547
Australia	1,281	1,334	...
Refined cathodes and shapes	19,856	46,484	31,412
Canada	2,534	4,242	5,807
Mexico	1,212	...	...
Chile	14,051	39,262	23,143
Peru	737	1,112	1,600
Belgium	19	...	250
Germany (W.)	...	4	...
Norway	500	973	398
Yugoslavia	303	248	83
Belg. Congo	500	643	99
Other countries	...	...	32
Total Imports:			
Crude & refined	51,532	81,466	61,849
In rolls, sheets or rods	435	519	632
Old and scrap (content)	394	404	446
Brass scrap & old (cu. cont.)	199	318	171

U. S. Lead Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1954		
	May	June	July
Pigs and bars	49	95	38
Canada	2	3	5
Cuba	2	3	2
Colombia	...	...	4
Venezuela	...	2	11
Philippines	33	80	6
Other countries	12	7	10
Total Exports:			
Ore, base, bullion, refined	49	95	38
Sheets & pipes	44	39	35
Typemetal	42	23	8
Antimonial	25	19	4
Scrap	561	492	200

Comparative Metal Prices

	1939 Av.	OPA Nov. 1946	1954 Oct. 18
Copper, Domestic (Electro, Del. Valley)	11.20	14.375	30.00
Lead (N. Y.)	5.05	8.25	15.00
P. W. Zinc (E. St. Louis, f. o. b.)	5.05	5.05	11.50
New York, del.	...	...	12.00
Tin, Spot—Straits, N. Y.	...	...	93.00
Aluminum Ingot 99%+	20.00	15.00	22.20
Antimony (R.M.M. brand, f. o. b. Laredo)	12.36	14.50	28.50

U. S. Lead Imports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1954		
	May	June	July
Ore, matte, etc. (content)	13,165	11,201	14,512
Canada	2,850	3,607	5,100
Mexico	102	201	87
Guatemala	189	...	282
Honduras	86	...	...
Bolivia	680	1,468	1,127
Peru	3,834	3,137	2,584
U. of S. Africa	3,392	1,475	1,932
Philippines	147	307	143
Australia	1,881	981	3,257
Other countries	4	25	...
Base bullion (content)	...	41	...
Peru	...	41	...
Pigs and bars	29,030	30,576	28,376
Canada	5,470	7,935	7,810
Mexico	8,252	6,142	6,313
Peru	2,456	2,159	2,624
Belgium	83	201	...
Denmark	473	834	442
Netherlands	...	44	...
Spain	386	...	551
U. Kingdom	...	65	15
Yugoslavia	3,767	5,646	4,471
Algeria	...	4,740	...
Fr. Morocco	2,207	...	...
Australia	5,936	2,810	6,150
Total Imports:			
Ore, base bullion, refined	42,195	41,818	42,888
Lead scrap, dross, etc. (cont.)	153	931	355
Antimonial lead & typemetal	695	545	361
Lead content thereof	535	438	267

U. S. Zinc Imports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1954		
	May	June	July
Zinc ore (content)	32,037	38,463	34,129
Canada	11,358	13,354	12,502
Mexico	12,431	16,436	10,456
Guatemala	49	...	...
Honduras	80	...	...
Bolivia	71	637	74
Chile	444	197	679
Peru	6,857	7,392	7,629
Yugoslavia	...	...	2,313
U. of S. Africa	438	163	245
Australia	280	222	198
Philippines	29	62	33
Zinc blocks, pigs, etc.	10,139	14,559	20,019
Canada	8,122	11,376	18,394
Mexico	...	210	120
Peru	709	961	560
Belgium	169	282	146
Italy	55	457	771
Netherlands	...	55	28
Belg. Congo	524	1,218	...
Australia	560	...	...
Total Imports:			
Zinc ore, blocks, pigs	42,176	53,022	54,148
Dross and skim.	45	...	21
Old and worn out	...	232	...

World Production of Copper

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States (a)	Canada (b)	Mexico (crude) (c)	Chile (d)	Peru (d)	Fed. Rep. of Germany (e)	Norway (f)	United Kingdom (g-h)	Yugo-slavia (c)	India (f-h)	Japan (e)	Turkey (f)	Aus-tralia (c)	Northern Rho-desia (c)	Union of South Africa (d)
1951															
Total	964,589	269,971	60,511	396,937	25,495	234,647	.....	.....	.....	....	100,254	....	16,984	349,667	36,104
1952															
Total	961,886	258,868	60,874	422,493	22,640	206,747	11,206	163,968	36,176	7,009	104,060	2,546	21,119	336,883	37,459
1953															
Feb.	75,172	20,897	4,732	33,738	1,316	16,326	....	....	2,448	...	7,089	...	2,557	22,038	3,146
Mar.	82,221	24,039	5,608	30,203	2,125	20,358	....	....	3,210	...	7,806	...	3,849	28,636	3,100
Apr.	81,739	22,197	4,766	39,397	2,100	19,097	....	....	2,066	...	7,626	...	2,948	30,001	3,523
May	84,091	22,299	4,624	41,538	2,284	20,189	....	....	2,866	...	7,906	...	2,929	25,280	2,142
June	75,838	22,110	5,931	35,744	2,223	19,962	....	6,625	3,354	455	7,797	...	4,164	35,790	2,690
July	79,938	22,801	5,621	29,502	2,359	20,914	....	4,679	3,081	710	7,444	...	3,711	34,775	3,980
Aug.	79,376	21,437	5,352	29,652	2,513	18,836	....	8,164	3,158	585	8,681	2,343	3,450	32,207	3,309
Sept.	78,952	19,601	4,974	29,417	2,121	19,654	....	6,412	3,340	702	9,600	2,536	3,920	28,579	3,506
Oct.	83,433	19,229	5,888	20,340	2,140	20,865	....	11,172	3,336	769	9,849	...	3,479	35,382	3,166
Nov.	79,934	17,315	5,486	9,669	2,268	20,466	....	13,791	2,612	759	9,581	1,618	3,240	34,262	2,572
Dec.	78,500	17,901	5,075	29,435	2,303	21,429	....	11,408	2,209	717	10,346	2,338	3,784	31,151	4,041
Total	957,318	253,652	63,380	371,742	25,803	233,330	13,306	108,604	34,381	5,709	100,381	25,641	37,080	382,884	38,341
1954															
Jan.	76,912	17,791	5,543	29,759	1,910	20,687	1,111	18,079	2,833	357	10,211	...	1,758	29,856	3,816
Feb.	68,034	18,370	5,146	28,673	1,465	19,359	939	11,404	1,330	718	10,052	...	2,483	25,947	3,513
Mar.	73,429	26,679	4,646	21,441	1,599	21,264	1,227	10,926	2,249	769	11,240	...	4,412	33,021	2,544
Apr.	70,977	27,940	4,380	21,116	2,412	22,494	1,176	13,289	3,135	728	11,074	...	4,446	36,250	4,863
May	71,571	27,664	4,057	22,782	2,620	21,104	1,128	11,670	3,094	711	11,030	...	5,011	32,154	2,631
June	74,113	26,077	5,650	28,590	2,490	23,597	....	11,920	3,092	647	8,654	..	4,492	31,982	....
July	66,070	26,652	5,650	34,670	2,400	23,597	....	11,759	....	720	10,519	...	3,276	32,077	....
Aug.	52,414	.....	5,394	.....	2,655	.....	....	....	....	...	....	..	..	32,709..	....

(a) Reported by Copper Institute. Crude, "recoverable contents of mine production or smelter production or shipments, and custom intake". Does not include intake of scrap nor of imported ore except that received from Cuba and Philippines. (b) Blister copper plus recoverable copper in concentrates, matte, ect., exported. (c) Crude copper, i. e., copper content of blister or converter copper as originally produced in the several countries, although some of it may be refined at home; e. g., in Rhodesia. (d) Blister and/or refined. (e) Refined. There are quantities of scrap included in the electrolytic production in addition to that reported, tonnage of which is not obtainable. (f) Smelter production. (g) Refinery production from imported blister only. (h) British Bureau of Non-Ferrous Metal Statistics. *. Refined.

World Production of Refined Lead

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States	Canada	Mexico	Peru	Belgium	France	Fed. Rep. of Germany	Italy	Spain	Yugo-slavia	Japan	Aus-tralia (a)	French Moroco	Tunisia	Rho-desia	Total
1951																
Total	486,874	162,712	219,352	48,824	77,873	53,831	170,766	39,683	45,460	.....	18,516	217,301	20,287	25,476	15,646	1,602,601
1952																
Total	532,778	183,389	248,551	53,536	83,139	59,607	152,751	38,504	46,060	74,053	20,382	217,293	31,224	28,264	14,112	1,783,643
1953																
Feb.	45,423	14,232	7,361	4,674	7,263	4,480	12,378	2,806	5,438	6,927	1,705	11,748	2,137	3,739	1,120	131,431
Mar.	47,993	15,112	24,883	5,809	7,251	5,348	14,149	3,466	4,601	7,098	2,079	20,683	2,945	1,612	1,344	164,373
Apr.	46,729	13,758	15,830	4,412	7,081	4,894	13,484	4,335	4,202	6,898	2,090	19,863	3,009	3,628	952	151,165
May	43,187	16,343	27,932	5,449	6,907	4,884	13,698	4,758	4,620	6,602	2,080	25,190	2,401	1,890	1,310	167,196
June	36,880	14,888	15,265	6,053	6,208	4,247	14,217	2,965	5,248	6,594	1,955	21,992	1,935	2,728	1,036	142,211
July	40,210	9,660	18,002	5,367	6,206	3,352	13,588	2,259	3,708	6,068	2,103	22,958	2,703	2,459	1,120	139,763
Aug.	38,022	11,615	19,801	5,428	6,164	3,866	12,265	2,359	4,266	6,281	2,155	22,312	2,169	2,889	1,120	132,262
Sept.	42,154	12,382	18,394	5,865	6,424	6,529	12,880	3,197	4,015	5,872	2,353	24,817	2,340	2,501	1,120	142,631
Oct.	44,741	12,646	19,907	5,935	6,457	6,208	14,610	5,072	5,635	6,984	2,071	23,754	2,639	2,666	1,120	160,445
Nov.	52,562	14,876	17,847	5,302	6,648	5,637	15,165	4,608	3,702	5,090	1,842	20,095	2,686	1,963	1,120	159,143
Dec.	48,687	14,913	19,262	5,634	6,900	6,584	15,674	3,635	4,406	6,581	2,467	26,464	2,590	2,643	1,120	167,560
Total	533,883	166,356	225,075	66,520	84,162	60,887	164,077	40,786	53,799	78,038	25,513	241,419	29,970	30,397	12,891	1,813,773
1954								2,221	4,019	5,771	2,820	25,901	2,944	2,716	1,120	160,206
Jan.	48,518	13,089	17,374	5,292	6,719	6,501	15,205									
Feb.	42,046	12,326	16,052	3,620	6,792	6,078	12,996	3,368	4,888	2,125	2,874	19,085	3,309	2,468	1,008	139,053
Mar.	50,808	14,243	22,638	5,303	6,416	5,767	14,445	3,963	6,033	5,832	3,276	17,244	3,297	2,917	1,400	163,582
Apr.	46,730	14,875	20,819	5,609	6,063	7,666	13,147	3,255	4,637	6,917	2,926	17,796	2,986	1,205	1,848	156,479
May	49,139	15,107	20,723	4,847	6,101	6,953	13,030	3,668	5,729	6,762	2,900	23,052	2,562	2,069	1,120	163,762
June	42,317	14,377	17,651	6,332	6,282	6,256	14,642	3,601	4,318	5,816	3,068	20,419	1,788	3,837	1,568	152,272
July	35,716	.....	19,765	5,228	....	6,414	13,238	3,754	6,317	....	3,580	.....	2,377	1,569	1,456	.....
Aug.	44,089	.....	17,668	5,414	....	....	.....	....	....	....	....	.....	....	....	2,240	.....

(a) Production credited to Australia includes lead refined in England from Australian base bullion.

World Production of Slab Zinc

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States (a)	Can. (b)	Mexico	Peru (b-c)	Belgium	France (a)	Fed. Rep. of Germany	Great Britain	Italy	Nether-lands	Norway (b)	Spain	Yugo-slovia	Japan (a)	Aus-tralia (b)	Rho-desia (b)	Total (d)
1951																	
Total	931,833	218,548	57,990	1,003	220,479	82,184	155,024	78,101	52,058	24,924	44,971	23,444	....	62,109	88,103	25,301	2,065,216
1952																	
Total	961,430	223,140	61,456	5,491	205,909	88,255	162,272	76,981	60,438	28,555	43,061	23,329	15,943	77,203	97,931	25,637	2,141,088
1953																	
Feb.	76,899	16,677	4,814	656	18,363	6,747	12,051	6,173	3,635	2,287	3,112	1,931	1,170	5,737	7,447	1,971	171,670
Mar.	83,485	20,693	5,273	701	19,041	8,152	13,425	7,828	4,664	2,530	3,951	2,179	1,485	7,366	8,298	2,240	191,311
Apr.	80,459	20,004	4,154	839	19,043	7,987	12,927	6,317	5,484	2,417	3,778	2,148	1,484	7,456	7,951	2,184	184,632
May	82,422	20,090	4,814	631	19,216	8,088	13,228	6,423	6,594	2,296	3,691	2,140	1,458	7,456	8,211	2,268	189,026
June	81,617	20,590	4,918	406	17,789	7,185	13,023	7,980	6,508	2,126	3,527	2,095	1,381	7,271	7,249	2,408	186,023
July	80,825	21,595	5,071	757	16,824	7,447	13,414	6,198	6,356	2,179	1,398	1,985	1,281	7,833	8,195	2,464	184,241
Aug.	83,241	21,703	5,096	1,002	16,135	5,295	13,783	5,947	6,444	2,235	3,784	1,889	1,219	7,803	8,292	2,520	184,167
Sept.	81,211	21,157	4,975	882	16,248	6,497	13,821	7,355	5,941	2,178	4,506	1,965	1,272	7,417	8,164	2,464	183,899
Oct.	84,031	21,880	5,077	967	16,584	7,275	14,484	5,808	5,748	2,305	4,469	2,256	1,337	7,528	9,545	2,436	191,766
Nov.	75,891	21,051	4,931	932	17,183	7,460	14,392	8,211	5,446	2,276	2,916	2,259	1,314	6,943	9,471	2,576	181,006
Dec.	79,116	21,899	5,170	1,119	18,218	9,424	15,098	7,623	5,035	2,286	2,852	2,324	1,346	8,176	9,841	2,688	192,215
Total	971,191	247,707	59,589	9,819	213,215	89,218	163,430	81,436	65,730	27,721	42,566	24,152	16,037	86,833	101,003	28,370	2,228,017
1954									5,358	1,958	3,670	2,261	1,305	8,383	9,482	2,520	188,550
Jan.	78,561	17,156	5,151	1,065	19,032	10,081	15,453	7,114									
Feb.	68,020	15,199	4,710	1,078	18,963	8,988	13,872	6,676	4,674	2,114	3,629	1,938	1,210	7,711	8,961	2,380	170,123
Mar.	71,186	16,550	5,258	1,537	19,213	10,645	15,420	9,119	5,503	2,474	4,522	2,137	1,236	9,588	10,012	2,520	186,920
Apr.	70,258	16,250	4,798	1,365	19,262	10,413	15,287	6,808	5,832	2,452	4,102	1,921	1,256	9,526	9,736	2,520	181,876
May	73,654	16,530	5,090	1,689	20,095	10,485	15,859	7,253	5,992	2,562	4,153	1,990	1,386	9,880	10,031	2,576	189,225
June	71,540	17,017	4,826	1,641	19,973	10,159	15,014	9,365	5,857	2,479	4,042	1,986	619	9,073	9,374	2,604	185,573
July	70,749	17,917	5,038	1,573	.....	10,341	15,764	6,316	7,495	2,600	4,233	2,223	....	9,747	10,487	2,604	.....
Aug.	71,793	18,756	5,085	1,009	.....	.....	.....	7,072	....	....	4,611	....	....	....	....	2,632	.....

(a) Partially electrolytic. (b) Entirely electrolytic. (c) Beginning 1954 both electrolytic and electrothermic. (d) The above totals omits production in Russia, Czechoslovakia, Poland and in Argentina.

U. K. Virgin Copper Stocks

British Bureau of Non-Ferrous Metal Statistics

(In long tons)

At start of:	1952	1953	1954
Jan.	113,359	131,968	55,344
Feb.	106,890	135,221	60,402
Mar.	103,123	146,911	60,084
Apr.	103,521	149,177	47,258
May	107,906	165,385	60,118
June	114,119	182,500	65,314
July	106,809	185,946	68,037
Aug.	107,619	198,609	67,307
Sept.	121,152	27,422	77,323
Oct.	121,649	31,850	.....
Nov.	119,052	36,824	.....
Dec.	126,394	50,407	.....

U. K. Refined Lead Stocks

British Bureau of Non-Ferrous Metal Statistics

(In long tons)

At start of:	1952	1953	1954
Jan.	77,167	23,090	26,887
Feb.	89,831	27,486	32,653
Mar.	104,206	16,518	30,697
Apr.	110,598	13,781	28,312
May	116,249	17,144	30,005
June	120,261	29,007	29,793
July	121,576	26,868	30,437
Aug.	116,283	25,820	29,492
Sept.	116,480	28,290	26,298
Oct.	109,323	22,886	.....
Nov.	107,160	29,279	.....
Dec.	88,514	29,174	.....

U. K. Stocks of Zinc

British Bureau of Non-Ferrous Metal Statistics

(In tons of 2,240 lbs.)

At start of:	Virgin Zinc 1953	Virgin Zinc 1954	Zinc. Conc. 1953	Zinc. Conc. 1954
Jan.	166,050	27,652	52,422	45,731
Feb	16,545	35,411	61,346	42,581
Mar.	20,401	37,646	64,625	33,912
Apr.	23,783	40,710	56,489	26,076
May	30,821	38,953	58,815	32,517
June	34,078	38,409	56,514	33,801
July	31,661	40,389	55,218	39,280
Aug.	34,609	45,825	54,467	43,705
Sept.	33,348	48,769	55,702	41,467
Oct.	27,981	.....	49,636	.....
Nov.	24,731	.....	46,173	.....
Dec.	22,462	.....	45,094	.....

U. K. Copper Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

(Gross Weight)	1954 June	1954 July	1954 Aug.
Copper and copper alloys	40,372	30,981	35,438
Copper unwrought:			
Electrolytic	25,104	18,219	20,445
Other refined	1,827	1,250	3,070
Blister or rough	13,418	11,469	11,902
Rods, sections, etc., and wire of brass and other alloys of copper	15	15	4
Other	8	28	17
U. of S. Africa	200	13	...
N. Rhodesia	23,494	15,059	21,197
Canada	6,569	5,562	4,565
Belgium	1,500	1,409	1,000
Germany (W.)	625	1,100	304
Sweden	2	...	...
United States	2,141	1,103	2,493
Chile	4,924	5,721	5,746
Other countries	917	1,014	133
Total	40,372	30,981	35,438

Copper Consumption in United Kingdom

British Bureau of Non-Ferrous Metal Statistics

(In tons of 2,240 pounds)

	Unalloyed	Brass, etc	Sulphate	Total	Virgin	Scrap
1949 Total	305,614	180,227	10,879	496,720	318,736	177,984
1950 Total	303,833	204,427	13,738	521,998	333,700	188,298
1951 Total	300,665	243,152	11,041	554,853	330,361	224,487
1952 Total	313,374	243,836	14,629	571,839	347,646	224,193
1953						
June	16,483	14,856	1,027	32,366	15,416	16,950
July	16,187	13,788	898	30,873	14,698	16,175
August	16,097	11,109	463	27,669	22,973	4,696
September	20,947	17,765	737	39,449	29,437	10,012
October	23,618	19,323	801	43,742	32,615	11,127
November	22,285	19,148	784	42,217	31,118	11,099
December	22,952	18,502	779	42,233	32,570	9,663
Total	243,717	192,337	11,206	447,260	322,311	124,949
1954						
January	23,421	18,520	961	42,902	35,344	7,558
February	22,304	19,322	1,041	42,667	31,951	10,716
March	26,049	21,361	1,197	48,607	37,382	11,225
April	23,570	18,542	1,110	43,222	30,938	12,284
May	26,363	20,826	1,210	48,399	37,339	11,060
June	27,893	20,423	1,158	49,474	37,109	12,365
July	23,100	18,082	1,235	42,417	29,644	12,773
August	22,613	16,809	539	39,961	28,741	11,270

U. K. Zinc Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

(Gross Weight)	1954 June	1954 July	1954 Aug.
Zinc ore and conc.	35,969	17,879	9,832
Australia	24,403	16,761	6,804
Canada	7,488	...	...
Other countries	4,078	1,118	3,028
Zinc conc.†	15,121	11,185	‡
Australia	12,004	8,200	...
Canada	1,350	2,613	...
Burma	1,767	372	...
Zinc and zinc alloys	12,325	12,556	9,020
Zinc or spelter, unwrought, in ingots, blocks, bars, slabs and cakes	12,296	12,530	8,958
Other	29	26	62
N. Rhodesia	850	333	493
Australia	2,451	1,000	751
Canada	4,991	6,108	4,461
Belgium	1,266	2,531	758
Germany (W.)	3	6	4
Netherlands	385	21	50
Norway	...	252	250
United States	1,949	1,350	845
Other countries	430	955	1,408
Total	12,325	12,556	9,020

† British Bureau of Non-Ferrous Metal Statistics. The estimated zinc content is not the content of the gross weights as officially reported for any comparable period.
‡ Not yet available.

Zinc Imports and Exports by Principal Countries

(A.B.M.S.)

Reported in slabs, blocks, etc.: metric tons except where otherwise noted.

IMPORTS

	1954 May	1954 June	1954 July
U. S. (s.t.)	10,139	14,559	20,019
Canada (s.t.)	2	...	...
Belgium	331	...	...
Denmark	797	417	240
France	1,338	1,779	722
Germany†	3,649	4,239	...
Italy	476	594	...
Netherlands	1,752	1,018	...
Sweden	2,308	2,203	2,043
Switzerland†	1,129	1,401	1,546
U. K. (l.t.)	13,327	12,325	12,556
India (l.t.)	2,279	3,107	3,045

EXPORTS

U. S. (s.t.)	862	1,058	1,639
Canada (s.t.)	13,926	15,654	27,581
Belgium	10,870	...	...
Denmark	128	25	5
France	120	121	93
Germany†	767	693	...
Italy	1,107	1,576	...
Netherlands	1,300	874	...
Norway	3,614	...	...
Switzerland†	464	351	466
U. K.‡ (l.t.)	326	269	360
N. Rhodesia (l.t.)	2,769	1,941	...
Belg. Congo	1,889	1,887	1,331

† Includes scrap.
‡ Includes manufactures.

United Kingdom Tin Statistics

(British Bureau of Non-Ferrous Metal Statistics)

	TIN CONTENT OF TIN IN ORE				TIN METAL				
	Imports	Production*	Consumption**	Stock at end of period*	Imports	Production*	Consumption	Exports & Re-exports	Stock at end of period
1952									
Year	28,836	954	29,350	2,364	2,885	29,521	22,555	21,721	4,225
1953									
May	3,598	95	2,450	4,351	86	2,410	1,351	1,152	3,645
June	2,440	136	3,100	3,651	10	2,895	1,519	1,332	3,511
July	2,891	85	3,300	3,328	22	3,289	1,328	1,730	3,749
August	2,945	44	2,650	3,782	20	2,611	1,177	2,195	3,511
September	2,720	98	3,100	3,388	7	2,893	1,820	2,195	3,269
October	2,151	99	2,850	2,769	35	2,667	1,680	1,379	3,157
November	1,812	80	2,550	2,228	50	2,521	1,541	926	3,031
December	2,639	83	2,350	2,450	25	2,249	1,768	823	3,085
Year	28,902	1,103	29,900	2,450	1,038	28,860	18,634	14,450	3,085
1954									
January	1,738	75	2,800	1,444	10	2,718	1,663	652	3,530

*As reported by International Tin Study Group. Production of Tin Metal includes production from imported scrap and residues refined on toll. Stocks exclude strategic stock but include official warehouse stocks. **Own estimates.

Canada's Copper Output

(Dominion Bureau of Statistics)

(Refined Copper)
(In Tons)

	1951	1952	1953	1954
Jan.	20,870	20,364	21,830	15,001
Feb.	18,342	18,901	21,075	13,954
Mar.	20,564	20,480	22,432	21,075
Apr.	20,347	20,363	21,747	20,412
May	22,731	20,548	20,179	23,012
June	21,315	20,274	18,384	23,344
July	20,142	14,196	19,996	21,572
Aug.	21,740	9,396	19,886	.....
Sept.	18,624	10,323	16,777	.....
Oct.	21,260	12,761	17,675	.....
Nov.	19,195	11,282	17,101	.....
Dec.	20,336	17,432	18,703	.....
Year	245,466	196,320	235,787	.....

Canada's Lead Exports

(Dominion Bureau of Statistics)

(In Pigs)
(In Tons)

	1951	1952	1953	1954
Jan.	10,081	8,136	11,212	6,170
Feb.	6,527	9,702	8,710	7,560
Mar.	10,873	10,851	14,943	11,092
Apr.	8,537	10,450	14,765	9,606
May	14,813	11,020	7,039	11,483
June	5,756	10,466	13,434	12,018
July	5,795	10,249	1,537	13,152
Aug.	4,894	10,642	8,869	....
Sept.	6,944	14,121	3,903	....
Oct.	8,660	13,193	7,532	....
Nov.	12,929	12,703	6,581	....
Dec.	9,927	8,208	4,354	....
Year	105,736	129,741	102,879	.....

Canada's Silver Exports

(Dominion Bureau of Statistics)

(In ores and concentrates)
(Fine Ounces)

	1952	1953	1954
Jan.	172,826	522,073	547,951
Feb.	144,635	218,421	567,225
Mar.	154,163	263,650	849,502
Apr.	280,130	311,141	572,059
May	222,133	419,569	660,724
June	273,447	323,913	682,906
July	380,190	614,320	1,210,045
Aug.	277,597	533,155	.....
Sept.	209,566	527,771	.....
Oct.	928,483	1,015,012	.....
Nov.	353,841	463,667	.....
Dec.	149,437	473,826	.....
Year	3,546,448	5,686,518	.....

Canada's Copper Exports

(Dominion Bureau of Statistics)

(Ingots, bars, slabs and billets)
(In Tons)

	1951	1952	1953	1954
Jan.	8,081	9,237	7,668	9,081
Feb.	6,600	4,947	16,411	8,385
Mar.	7,388	11,104	10,578	11,671
Apr.	12,336	10,948	11,153	11,218
May	6,940	11,355	14,726	18,407
June	8,115	8,178	15,053	14,877
July	9,160	7,815	13,939	15,467
Aug.	6,503	13,739	7,272	.....
Sept.	8,010	10,908	8,139	.....
Oct.	6,968	11,040	8,957	.....
Nov.	3,387	10,004	9,062	.....
Dec.	13,343	4,500	9,036	.....
Year	101,831	113,675	131,994	.....

Canada's Zinc Output

(Dominion Bureau of Statistics)

(Refined Zinc)
(In Tons)

	1951	1952	1953	1954
Jan.	18,244	19,242	18,370	17,155
Feb.	16,710	17,411	18,677	15,199
Mar.	18,138	18,953	20,693	16,550
Apr.	17,484	19,415	20,003	16,249
May	18,116	18,786	20,090	16,530
July	18,232	19,411	21,595	17,917
July	18,232	19,411	21,595	.....
Aug.	18,352	18,924	21,703	.....
Sept.	17,956	18,230	21,157	.....
Oct.	17,786	19,754	21,888	.....
Nov.	18,683	16,114	21,051	.....
Dec.	20,271	18,232	21,899	.....
Year	219,194	222,200	247,707	.....

Canada's Silver Output

(Dominion Bureau of Statistics)

(In Ounces)

	1952	1953	1954
Jan.	1,803,848	2,459,531	2,553,293
Feb.	2,022,126	2,255,113	2,050,440
Mar.	2,085,986	2,458,022	2,314,392
Apr.	2,521,864	3,076,852	2,700,315
May	2,274,279	2,520,180	2,507,702
June	1,907,137	1,538,663	2,702,761
July	1,831,089	2,353,542	2,714,576
Aug.	2,214,798	2,029,346	.....
Sept.	1,817,435	2,067,294	.....
Oct.	1,857,118	2,097,630	.....
Nov.	2,421,617	2,207,170	.....
Dec.	2,464,930	2,361,452	.....
Year	25,222,227	28,424,795	.....

Canada's Lead Output

(Dominion Bureau of Statistics)

(Recoverable Lead)*
(In Tons)

	1951	1952	1953	1954
Jan.	16,099	15,271	19,502	17,716
Feb.	12,001	11,072	16,888	16,863
Mar.	12,632	15,522	14,183	17,104
Apr.	10,063	14,547	18,640	19,452
May	11,126	13,770	16,120	19,953
June	13,811	11,172	15,302	18,988
July	11,017	11,460	11,969	19,164
Aug.	13,797	13,605	13,864	.....
Sept.	11,899	14,488	14,335	.....
Oct.	15,052	16,641	16,327	.....
Nov.	14,785	12,884	19,433	.....
Dec.	15,562	18,406	19,273	.....
Year	158,231	168,842	195,836	.....

* New base bullion from Canadian ores plus recoverable lead in ores or concentrates shipped for export.

Canada's Zinc Exports

(Dominion Bureau of Statistics)

(Slabs in Tons)

	1951	1952	1953	1954
Jan.	13,277	9,209	17,478	16,625
Feb.	4,602	17,639	13,580	11,328
Mar.	12,185	21,839	18,307	18,199
Apr.	14,014	18,205	17,068	17,926
May	13,776	12,514	15,595	13,926
July	13,597	12,800	10,068	27,582
July	13,597	12,800	10,068	.....
Aug.	11,669	10,040	8,594	.....
Sept.	10,435	12,594	9,423	.....
Oct.	16,370	11,454	11,862	.....
Nov.	12,371	14,135	10,685	.....
Dec.	12,500	12,042	10,809	.....
Year	146,133	166,864	158,388	.....

Canada's Nickel Output

(Dominion Bureau of Statistics)

(In Tons)

	1951	1952	1953	1954
Jan.	10,993	11,813	12,446	12,670
Feb.	9,702	10,719	10,612	11,795
Mar.	11,676	12,381	12,218	13,502
Apr.	10,603	12,318	11,791	12,931
May	12,528	12,413	11,560	13,364
June	11,889	12,563	11,647	13,171
July	11,828	10,426	11,751	12,779
Aug.	12,304	11,975	11,681	.....
Sept.	11,682	10,982	11,981	.....
Oct.	11,758	11,773	12,419	.....
Nov.	11,570	11,381	12,714	.....
Dec.	11,370	11,815	11,996	.....
Year	137,903	140,559	143,016	.....

Canadian Copper Exports

(Dominion Bureau of Statistics)
(A.B.M.S.)
(In tons of 2,000 lbs.)

	1954		
	May	June	July
Ore, Matte, regulus, etc. (content)	3,565	6,380	3,384
United States	2,371	4,027	2,563
Germany (W.)	379	725	...
Norway	724	1,537	701
U. Kingdom	91	91	120
Ingots, bars, billets	18,407	14,877	15,467
United States	5,300	5,517	6,918
Brazil	671	281	937
France	662	662	662
Germany (W.)	95	140	...
U. Kingdom	11,679	8,277	6,950
Total Exports:			
Crude & refined	21,972	21,257	18,851
Old and scrap	1,086	931	897
Rods, strips, sheet and tubing	739	1,127	1,101

Canadian Lead Exports

(Dominion Bureau of Statistics)
(A.B.M.S.)
(In tons of 2,000 lbs.)

	1954		
	May	June	July
Ore (lead content)	5,036	8,035	6,912
United States	4,247	3,659	4,390
Belgium	...	1,890	1,259
Germany	789	2,486	1,263
Refined lead	11,483	12,017	13,153
United States	5,525	7,721	8,053
Cuba	1	...	...
Brazil	85	124	565
U. Kingdom	5,740	4,172	4,480
Japan	131	...	54
Other countries	1	...	1
Total Exports:			
Ore & Refined	16,519	20,052	20,065
Pipe & tubing	6	2	1
Lead scrap	95	1	4

Canadian Zinc Exports

(Dominion Bureau of Statistics)
(A.B.M.S.)
(In tons of 2,000 lbs.)

	1954		
	May	June	July
Ore (zinc content)	12,078	19,496	22,672
United States	12,078	12,460	11,667
Belgium	...	479	6,422
France	...	1,787	...
Norway	..	...	4,583
U. Kingdom	...	4,770	...
Slab zinc	13,926	15,654	27,581
United States	8,581	10,625	18,999
Brazil	...	44	20
U. Kingdom	5,345	4,985	8,402
Korea	...	...	129
Other countries	...	...	31
Total Exports:			
Ore and slabs	26,004	35,150	50,253
Zinc scrap, dross, ashes	734	445	668
United States	48	...	50
Belgium	563	397	370
Germany (W.)	79	48	100
Japan	28	...	...
India	16	...	...
Netherlands	...	...	148

Copper Imports and Exports by Principal Countries

(A.B.M.S.)

Reported in ingots, slabs, etc.; metric tons except where otherwise noted.

	1954		
	May	June	July
IMPORTS			
U. S. (blist., s.t.)	21,085	27,047	20,596
(ref., s.t.)	19,856	46,484	31,412
Belgium†	7,232	...	...
Denmark	424	326	213
France (crude)	813	1,051	2,813
(refined)	8,416	9,166	13,501
Italy	4,379	5,191	...
Germany	15,704	21,713	...
Netherlands	3,047	1,533	...
Norway	353	...	...
Sweden	6,144	4,679	4,294
Switzerland	1,946	3,120	2,872
U. K. (l.t.)	35,276	40,372	30,981
India (ref., l.t.)	2,726	1,349	1,850
EXPORTS			
U. S. (ref., s.t.)	22,686	20,216	19,811
Canada (ref.,s.t.)	18,407	14,877	15,467
Belgium†	9,418	...	...
Denmark	...	80	84
Finland‡	238	75	...
Germany	3,255	3,171	...
Norway	941	...	...
Sweden	2,401	1,340	2,901
U. K. (l.t.)	3,348	2,318	2,213
Belg. Congo*	24,162	14,596	17,765
N. Rhodesia (ref. & blist., l.t.)	26,666	30,031	30,900

† Includes copper alloys.
‡ Includes old.
* Copper wire bars and ingot bars 99% and copper ingots 97%.

French Zinc Imports

(A.B.M.S.)
(In metric tons)

	1954		
	June	July	Aug.
Ore (gross weight)	11,402	18,544	19,168
Canada	...	2,778	270
Belgium	1,021	...	500
Germany (W.)	...	250	476
Greece	...	1,748	52
Italy	1,051	204	1,401
Norway	...	...	1,105
Spain	2,678	...	4,913
Algeria	2,856	4,384	6,492
Fr. Morocco	508	4,925	1,670
Tunisia	1,214	421	2,289
Australia	2,074	3,834	...
Slabs, bars, blocks, etc.	1,779	722	683
United States	...	51	...
Mexico	...	25	...
Belgium	1,683	645	410
Italy	70	...	100
Netherlands	...	...	150
Norway	19	...	...
U. Kingdom	1	1	...
Algeria	6	...	23

U. K. Copper Exports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

	1954		
	June	July	Aug.
(Gross Weight)			
Copper unwrought, ingots, blocks, slabs, bars, etc.	2,318	2,213	2,353
Plates, sheets, rods, etc.	1,808	1,983	2,477
Wire (including uninsulated electric wire)	397	334	287
Tubes	431	473	368
Other copper, worked (incl. pipe fittings)	29	49	41
Total	4,983	5,052	5,526

French Copper Imports

(A.B.M.S.)

(In metric tons)

	1954		
	June	July	Aug.
Crude copper for refining (blister, black and cement)	1,051	2,813	...
Belg. Congo	51	813	...
U. of S. Africa	1,000	2,000	...
Refined	9,166	13,501	9,710
United States	3,028	2,618	4,335
Canada	600	750	450
Peru	263	468	727
Belgium	1,701	3,905	874
Germany (W.)	51	70	903
Norway	175	...	...
Sweden	2	23	...
U. Kingdom	194	565	872
Belg. Congo	1,637	4,734	1,434
Other Br. Africa (East Coast)	1,427	341	...
Other countries	88	27	115
Total Imports			
Crude & refined	10,217	16,314	9,710

French Metal Exports

(A.B.M.S.)

(In metric tons)

	1954		
	June	July	Aug.
Lead:			
Ore (gross weight)	37	15	7
Pig lead:			
Non-argentiferous	603	881	498
Antimonial lead	91	25	53
Zinc:			
Slabs, bars, blocks, etc.	121	92	141
Copper:			
Crude copper for refining (blister, black and cement)	...	1,030	58

Nonferrous Castings

MONTHLY SHIPMENTS, BY TYPE OF METAL

(Bureau of Census — Thousands of Pounds)

	Aluminum	Copper	Magnesium	Zinc	Lead Die
1949 Total	304,409	724,053	9,364	377,779	9,101
1950 Total	543,082	1,056,973	15,224	579,332	20,977
1951 Total	515,131	1,197,443	30,825	487,996	25,936
1952					
December	53,343	90,799	3,110	42,148	1,648
Total	518,979	1,009,910	34,857	408,353	20,941
1953					
February	54,988	85,674	3,274	46,723	1,645
March	59,208	93,183	3,403	51,540	1,912
April	61,461	94,063	3,332	51,301	1,979
May	57,340	84,550	2,705	44,174	1,792
June	56,492	83,947	3,063	48,806	1,777
July	51,196	69,597	2,287	39,968	1,506
August	50,428	77,652	2,490	37,800	1,806
September	53,306	79,595	2,455	38,611	1,743
October	55,097	83,899	3,024	40,882	1,709
November	51,014	74,782	2,681	37,688	1,405
December	51,579	77,675	2,691	38,661	1,231
Total	658,022	990,496	34,517	521,253	20,444
1954					
January	51,446	71,437	2,451	40,396	1,514
February	51,213	68,849	2,194	37,660	1,303
March	56,184	76,480	2,407	42,991	1,335
April	53,006	72,900	2,068	38,968	1,559
May	47,663	67,859	1,738	36,793	1,529
June	48,061	70,777	2,034	40,708	1,712
July	39,636	56,380	1,924	28,306	1,391

*Computed on new basis as of October, 1952.

Copper Castings Shipments

BY TYPE OF CASTING

(Bureau of Census) (Thousands of Pounds)

	Total	Sand	Permanent Mold	Die	All Other
1949 Total	724,053	654,444	37,311	8,817	23,481
1950 Total	1,015,679	918,883	52,756	13,224	30,816
1951 Total	1,197,443	1,075,437	69.883	12.516	39.607
1952 Total	1,009,910	910,862	63,865	8,259	26,924
1953					
May	84,550	76,239	4,856	895	2,560
June	83,947	75,625	4,705	872	2,745
July	69,957	63,365	3,927	692	1,973
August	77,652	69,852	4,890	854	2,056
September	79,595	71,184	5,273	840	2,298
October	83,899	74,460	5,775	853	2,811
November	74,782	66,370	5,077	757	2,578
December	77,675	68,821	5,082	818	2,854
Total	990,496	888,369	61,316	10,077	30,734
1954					
January	71,437	63,034	4,618	816	2,969
February	68,849	60,913	4,743	758	2,435
March	76,480	67,952	5,123	875	2,530
April	72,900	65,418	4,732	377	2,373
May	67,859	61,469	3,755	318	2,317
June	70,777	64,328	3,567	456	2,426
July	56,380	51,070	3,073	393	1,844

*Computed on new basis as of October, 1952.

Nickel Averages

Electro, cathode sheets, 99.00%, f.o.b. refinery, duty included

(cents per pound)

	1951	1952	1953	1954
Jan.	50.50	56.50	58.62	60.00
Feb.	50.50	56.50	60.00	60.00
Mar.	50.50	56.50	60.00	60.00
Apr.	50.50	56.50	60.00	60.00
May	50.50	56.50	60.00	60.00
June	56.27	56.50	60.00	60.00
July	56.50	56.50	60.00	60.00
Aug.	56.50	56.50	60.00	60.00
Sept.	56.50	56.50	60.00	60.00
Oct.	56.50	56.50	60.00	....
Nov.	56.50	56.50	60.00	....
Dec.	56.50	56.50	60.00	....
Av.	53.98	56.50	59.885	....

Platinum Averages

N. Y. MONTHLY QUOTATIONS

(Dollars per Troy Ounce)

	1951	1952	1953	1954
Jan.	91.50	91.50	91.50	91.40
Feb.	91.50	91.50	91.50	91.00
Mar.	91.50	91.50	91.50	87.88
Apr.	91.50	91.50	91.50	85.50
May	91.50	91.50	91.50	85.50
June	91.50	91.50	92.81	85.50
July	91.50	91.50	94.00	85.50
Aug.	91.50	91.50	94.00	85.50
Sept.	91.50	91.50	92.50	85.50
Oct.	91.50	91.50	92.50	....
Nov.	91.50	91.50	92.50	....
Dec.	91.50	91.50	92.15	....
Av.	91.50	91.50	92.496	....

Prompt Tin Prices

(Straits, Open Market, N. Y.)

Monthly Average Prices

(cents per pound)

	1951	1952	1953	1954
Jan.	171.74	109.727†	121.50	84.84
Feb.	182.68	121.50†	121.50	85.04
Mar.	146.035†	121.50†	121.415	91.24
Apr.	145.95†	121.50†	101.07	96.238
May	139.954†	121.50†	97.387	93.51
June	118.048†	121.50†	92.933	94.24
July	106.00†	121.50†	81.826	96.55
Aug.	103.00†	121.50†	80.69	93.381
Sept.	103.00†	121.375	82.275	93.536
Oct.	103.00†	121.228	80.897	....
Nov.	103.00†	121.25	83.26	....
Dec.	103.00†	121.465	84.693	....
Av.	127.12	(A)	95.787	....

†RFC Prompt Grade A from March 13, 1951.

(A) RFC 1952 average price, 120.519c. Average Open Market Price, last four months of 1952, 121.344c.

Monthly Tin Production at Longhorn Smelter

(From Concentrates)

(In tons of 2,240 pounds)

	1951	1952	1953	1954
Jan.	3,211	1,802	4,000	2,700
Feb.	3,096	1,800	3,400	3,008
Mar.	3,036	1,800	3,850	3,559
Apr.	3,058	1,800	3,750	3,006
May	3,059	1,800	3,100	2,054
June	2,655	NIL	3,000	1,205
July	2,406	NIL	3,000	NIL
Aug.	2,543	NIL	2,600	2,002
Sept.	2,155	2,450	2,700	2,404
Oct.	2,091	3,364	2,751	....
Nov.	1,806	4,020	2,750	....
Dec.	1,805	3,705	2,750	....
Total	30,921	22,541	37,651	....

Quicksilver Averages

N. Y. Monthly Averages

Virgin, Dollars per 76-lb. Flask

	1951	1952	1953	1954
Jan.	199.18	209.19	214.88	189.60
Feb.	218.05	201.74	207.37	190.00
Mar.	216.92	207.74	199.92	201.63
Apr.	217.14	205.08	197.90	221.36
May	214.462	200.81	196.50	251.20
June	211.00	196.38	193.42	273.46
July	207.46	192.154	192.21	287.40
Aug.	199.24	188.115	190.42	290.71
Sept.	208.65	190.76	187.04	314.08
Oct.	220.02	194.00	184.62	.....
Nov.	217.87	202.64	186.00	.....
Dec.	214.92	215.30	188.38	.....
Av.	212.08	200.50	194.89	.....

Primary Aluminum Output, Shipments and Stocks

(U. S. Department of Interior)

	Stocks beginning of month short tons	Production short tons	Sold or Used Short tons	Sold or Used Value f. o. b. plant	Stocks end of month short tons
1953					
August	17,848	110,545	104,015	41,156,603	24,378
September	24,378	109,333	106,720	42,916,029	26,991
October	26,991	108,219	113,420	45,733,162	21,790
November	21,790	105,636	97,374	39,304,264	30,052
December	30,052	110,291	101,024	40,681,905	39,317
1954					
January	39,319	116,247	112,831	45,540,192	42,735
February	42,735	110,483	94,724	38,110,318	58,494
March	58,494	122,339	117,587	47,220,513	63,246
April	63,246	120,434	120,786	48,598,623	62,894
May	62,894	125,138	115,838	46,534,504	72,194
June	72,194	120,758	124,914	50,460,097	68,038
July	68,038	126,161	118,578	47,659,340	75,621
August	75,621	125,296	130,668	52,658,509	70,249

Aluminum Wrought Products

PRODUCERS' MONTHLY NET SHIPMENTS

(Bureau of Census — Thousands of Pounds)

	Total	Plate, Sheet, & Strip	Rolled Structural Shapes, Rod, Bar & Wire	Extruded Shapes Tube Blooms & Tubing	Powder, Flake, & Paste
1948 Total	**1,640,206**	**1,268,297**	**182,991**	**171,964**	**16,954**
1949 Total	**1,158,146**	**790,025**	**203,650**	**149,995**	**14,476**
1950 Total	**1,713,449**	**1,163,135**	**269,780**	**258,075**	**22,459**
1951 Total	**1,756,244**	**1,073,367**	**345,163**	**312,944**	**24,770**
1952 Total	**1,924,750**	**1,085,699**	**443,546**	**347,542**	**47,963**
1953					
March	214,871	127,083	42,062	41,366	4,360
April	220,025	129,172	46,490	40,697	3,666
May	209,667	123,616	41,725	40,628	3,698
June	205,585	121,219	40,258	41,224	2,884
July	202,796	123,429	37,453	39,273	2,641
August	191,007	117,826	32,180	37,623	3,378
September	184,143	111,807	33,295	35,597	3,444
October	186,056	113,589	29,168	38,720	4,579
November	148,894	89,383	24,041	31,590	3,880
December	149,221	91,162	23,187	30,709	4,163
Total	2,286,865	1,368,165	422,046	451,922	44,732
1954					
January	153,920	84,293	31,600	34,576	3,451
February	145,335	80,505	29,577	31,583	3,664
March	170,010	92,955	32,698	38,928	5,429
April	174,176	96,893	33,637	39,246	4,420
May	168,678	94,886	21,197	40,981	3,514
June	184,205	102,026	31,299	46,146	4,734
July	169,917	94,656	28,732	42,686	3,843
August	184,244	104,580	31,687	43,643	4,334

Aluminum Castings Shipments

(Bureau of Census)

BY TYPE OF CASTING

(Thousands of Pounds)

	Total	Sand	Permanent Mold	Die	All Other
1949 Total	351,778	122,604	123,523	93,340	7,311
1950 Total	543,082	184,782	181,366	167,201	9,733
1951 Total	515,131	193,378	160,011	151,465	10,277
1952 Total	518,979	194,616	146,883	169,732	7,748
1953					
April	61,461	20,158	16,628	22,305	370
May	57,340	19,639	16,528	20,858	315
June	56,492	19,349	15,528	21,335	280
July	51,196	16,614	15,692	18,549	341
August	50,428	15,940	16,252	17,837	399
September	53,306	17,826	17,189	17,857	416
October	55,097	17,171	17,030	20,547	349
November	51,014	16,169	15,396	19,012	437
December	51,579	15,265	16,907	18,963	436
Total	658,022	214,553	200,025	239,330	4,114
1954					
January	51,446	14,698	16,615	19,709	424
February	51,213	14,696	17,281	18,754	482
March	56,184	14,468	19,576	21,645	495
April	53,006	14,073	18,091	20,366	476
May	47,663	12,461	16,312	18,368	522
June	48,061	12,442	17,105	17,886	628
July	39,636	11,299	13,749	14,004	584

*Computed on new basis as of October, 1952.

Virgin Aluminum

Virgin 99% Delivered

Monthly Average Prices

(Cents per pound)

	1951	1952	1953	1954
Jan.	19.00	19.00	20.173	21.50
Feb.	19.00	19.00	20.50	21.50
Mar.	19.00	19.00	20.50	21.50
Apr.	19.00	19.00	20.50	21.50
May	19.00	19.00	20.50	21.50
June	19.00	19.00	20.50	21.50
July	19.00	19.00	20.962	21.50
Aug.	19.00	19.846	21.50	22.12
Sept.	19.00	20.00	21.50	22.20
Oct.	19.00	20.00	21.50	....
Nov.	19.00	20.00	21.50	....
Dec.	19.00	20.00	21.50	....
Av.	19.00	19.404	20.928	....

Magnesium Wrought Products Shipments

(Bureau of Census)

(Thousands of Pounds)

	1951	1952	1953	1954
Jan.	1,522	1,635	1,313	972
Feb.	1,489	1,748	1,454	1,058
Mar.	1,889	1,712	1,601	1,136
Apr.	1,531	1,745	1,708	892
May	1,716	1,804	1,699	1,129
June	1,643	1,428	1,192	1,312
July	1,391	1,390	1,589	1,032
Aug.	1,497	1,438	1,433	1,110
Sept.	1,461	1,305	1,254	....
Oct.	1,773	1,408	1,409	....
Nov.	1,645	1,178	1,314	....
Dec.	1,533	1,440	919	....
Total	19,090	18,249	16,885	....
Total	12,810	19,090	18,249	16,885

Cadmium Averages

N. Y. Monthly Averages

Cents per lb. in ton lots

	1951	1952	1953	1954
Jan.	255.00	255.00	193.00	200.00
Feb.	255.00	255.00	200.00	170.00
Mar.	255.00	255.00	200.00	170.00
Apr.	255.00	255.00	200.00	170.00
May	255.00	237.00	200.00	170.00
June	255.00	225.00	200.00	170.00
July	255.00	225.00	200.00	170.00
Aug.	255.00	200.00	200.00	170.00
Sept.	255.00	200.00	200.00	170.00
Oct.	255.00	200.00	200.00	.....
Nov.	255.00	200.00	200.00	.....
Dec.	255.00	179.81	200.00	.....
Av.	255.00	223.90	199.44	.....

Steel Ingot Production

(American Iron and Steel Institute)

Period	Estimated Production — All Companies OPEN HEARTH Net tons	Per cent of capacity	BESSEMER Net tons	Per cent of capacity	ELECTRIC Net tons	Per cent of capacity	TOTAL Net tons	Per cent of capacity	Calculated weekly production, all companies (net tons)
1949 Total	70,227,775	82.8	3,946,656	76.0	3,693,922	60.4	77,868,353	81.0	1,492,448
1950 Total	86,262,509	98.7	4,534,558	81.3	6,039,008	86.5	96,836,075	96.9	1,857,232
1951 Total	93,146,625	102.3	4,890,946	87.0	7,096,982	93.9	105,134,553	100.9	2,016,390
1952 Total	82,846,439	87.2	3,523,677	65.5	6,797,923	82.6	93,168,039	85.8	1,782,097
1953									
May	8,925,163	102.3	354,577	90.0	717,340	82.5	9,997,080	100.1	2,256,677
June	8,394,502	99.4	332,060	87.0	677,917	80.5	9,404,479	97.2	2,192,186
July	8,316,342	95.5	324,068	82.4	635,263	73.2	9,275,673	93.1	2,098,569
August	8,463,155	97.0	310,074	78.7	632,351	72.7	9,405,580	94.2	2,123,156
September	8,076,277	95.8	287,638	75.6	519,513	61.9	8,883,428	92.1	2,075,567
October	8,648,428	99.1	325,250	82.6	489,044	56.3	9,462,722	94.7	2,136,055
November	8,002,349	94.7	283,321	74.3	404,382	48.0	8,690,052	89.9	2,025,653
December	7,321,947	84.1	269,813	68.6	354,568	40.9	7,946,328	79.7	1,797,812
Total	100,473,823	97.9	3,855,705	83.2	7,280,191	71.1	111,609,719	94.9	2,140,578
1954									
January	7,256,526	78.3	260,453	64.0	434,507	48.9	7,951,486	75.3	1,794,918
February	6,523,213	77.9	174,523	47.4	385,771	48.1	7,083,237	74.3	1,770,809
March	6,649,667	71.7	207,726	51.1	432,207	48.3	7,289,600	69.0	1,645,508
April	6,365,326	70.9	162,657	41.3	442,954	51.5	6,910,937	68.0	1,624,927
May	6,817,951	73.6	198,063	48.7	456,724	51.4	7,472,738	70.7	1,686,848
June	6,702,006	74.7	209,666	52.7	453,962	52.8	7,363,634	72.0	1,716,465
July	6,040,120	65.3	205,313	50.6	382,164	43.1	6,627,597	62.9	1,499,456
Aug.	6,021,496	65.0	217,837	53.6	427,574	48.2	6,666,907	63.1	1,504,945
Sept.	6,109,000	68.2	214,000	54.5	448,000	52.2	6,771,000	66.3	1,582,000

Blast Furnace Output

American Iron and Steel Institute)

	net tons Pig Iron	Ferro-manganese & Spiegel	Total	% Capacity
1945				
Ttl. Yr.	53,454,872	712,210	54,167,082	80.5
1946				
Ttl. Yr.	44,854,801	523,729	45,378,530	67.4
1947				
Ttl. Yr.	58,507,169	702,561	59,209,730	90.1
1948				
Ttl. Yr.	60,135,941	712,899	60,848,840	90.2
1949				
Ttl. Yr.	53,613,779	592,564	54,206,343	76.8
1950				
Ttl. Yr.	64,810,272	673,896	65,484,168	91.5
1951				
Ttl. Yr.	70,487,380	745,381	71,232,761	98.3
1952				
June	1,056,278	12,003	1,068,281	17.6
July	995,957	6,587	1,002,512	16.1
Aug.	5,782,096	48,661	5,830,757	93.3
Sept.	6,095,865	68,500	6,164,365	102.1
Oct.	6,442,024	73,067	6,515,091	104.2
Nov.	6,155,565	71,723	6,227,283	102.9
Dec.	6,436,136	73,400	6,509,536	104.4
Total	61,528,665	629,926	62,158,591	84.2
1953				
Jan.	6,482,081	82,302	6,564,393	97.3
Feb.	5,813,202	68,316	5,881,518	96.6
Mar.	6,611,040	66,321	6,677,361	99.0
Apr.	6,171,939	58,702	6,230,641	95.4
May	6,519,082	68,033	6,587,115	97.7
June	6,297,559	74,972	6,372,531	97.6
July	6,436,345	80,142	6,516,487	96.8
Aug.	6,391,749	79,805	6,471,554	96.0
Sept.	6,132,330	69,689	6,202,019	95.2
Oct.	6,419,752	77,958	6,497,710	96.3
Nov.	5,999,704	62,896	6,062,600	92.8
Dec.	5,712,938	65,902	5,778,840	85.9
Total	74,987,721	855,038	75,842,759	96.5
1954				
Jan.	5,516,689	63,824	5,579,513	80.1
Feb.	4,764,613	45,941	4,810,554	76.5
Mar.	130,111	120,471	318,049	354,233
Apr.	122,291	103,910	319,386	340,838
May	122,710	145,783	336,209	461,026
June	127,570	187,508	313,595	502,466
July	102,291	79,096	302,235	162,771
Aug.	4,529,291	37,744	4,567,035	71.0
Sept.	4,417,888	43,934	4,461,822	66.3

Steel Castings Shipments

(Bureau of Census)

	(Short Tons) Total	For Sale	For Own Use
1948	1,760,032	1,335,295	424,737
1949	1,250,460	865,297	385,163
1950	1,461,667	929,192	374,217
1951	2,101,604	1,507,413	594,191
1952			
May	173,635	132,129	41,506
June	141,628	114,410	27,218
July	119,036	97,633	21,403
Aug.	150,232	113,997	36,235
Sept.	158,392	121,402	36,990
Oct.	165,155	124,629	40,529
Nov.	148,259	110,467	37,792
Dec.	162,237	122,670	39,567
Total	1,925,116	1,476,352	448,767
1953			
Jan.	167,211	126,819	40,392
Feb.	175,675	137,592	38,083
Mar.	182,181	141,873	40,308
Apr.	179,615	140,051	39,564
May	165,649	126,380	39,269
June	164,665	125,984	38,681
July	139,577	105,687	33,890
Aug.	141,340	107,941	33,399
Sept.	135,303	102,880	32,423
Oct.	140,702	106,788	33,914
Nov.	114,088	84,945	29,143
Dec.	123,281	91,017	32,264
Total	1,829,277	1,290,016	431,330
1954			
Jan.	122,758	93,577	29,181
Feb.	116,520	88,699	27,821
Mar.	122,310	92,271	30,039
Apr.	105,788	78,754	27,034
May	94,610	70,596	24,014
June	100,022	72,881	27,141
July	75,848	53,207	22,641

GALVANIZED SHEET SHIPMENTS

(American Iron & Steel Institute)

(Net Tons)

	1951	1952	1953	1954
Jan.	180,399	165,196	201,472	169,086
Feb.	146,200	152,761	183,503	167,433
Mar.	172,535	177,674	204,995	180,198
Apr.	174,129	170,583	196,656	203,312
May	177,310	182,978	189,765	201,671
June	176,498	53,947	184,862	200,456
July	161,428	56,254	185,896	214,349
Aug.	190,578	177,661	187,741	207,113
Sept.	157,170	201,318	194,257	.....
Oct.	160,552	219,883	208,705	.....
Nov.	143,644	194,712	177,391	.....
Dec.	145,071	208,191	175,375	.....
Total	1,984,961	1,961,158	2,290,868	.....

SHIPMENTS of TIN-TERNE PLATE

(American Iron & Steel Institute)

(Net Tons)

	Hot Dipped 1953	Hot Dipped 1954	Electrolytic 1953	Electrolytic 1954
Jan.	121,634	93,776	311,635	317,587
Feb.	105,608	95,386	267,824	297,169
Mar.	130,111	120,471	318,049	354,233
Apr.	122,291	103,910	319,386	340,838
May	122,710	145,783	336,209	461,026
June	127,570	187,508	313,595	502,466
July	102,291	79,096	302,235	162,771
Aug.	118,884	113,747	271,490	227,853
Sept.	95,060	.....	244,718	.....
Oct.	98,889	.....	262,548	.....
Nov.	84,242	.....	218,694	.....
Dec.	88,790	.....	177,075	.....
Total	1,318,080	.....	3,343,458	.....

Steel Ingot Operations

(Percentage of Capacity as Reported by (American Iron & Steel Institute)

Week Beginning	1951	1952	1953	1954
Jan. 4	99.1	102.1	98.2	75.4
Jan. 11	99.6	98.7	99.3	74.3
Jan. 18	100.9	99.4	99.7	74.1
Jan. 25	101.3	100.1	99.4	75.6
Feb. 1	96.7	100.6	97.7	74.4
Feb. 8	98.5	100.1	99.7	74.4
Feb. 15	99.5	100.6	99.1	74.6
Feb. 22	99.8	100.9	99.4	73.6
Mar. 1	101.0	101.3	100.3	70.7
Mar. 8	100.1	101.8	101.3	69.3
Mar. 15	101.1	102.4	101.5	67.6
Mar. 22	103.5	102.6	103.1	68.1
Mar. 29	102.4	102.1	97.1	69.1
Apr. 5	102.3	62.3	98.9	68.0
Apr. 12	102.9	97.0	98.8	68.0
Apr. 19	103.3	100.4	101.0	68.6
Apr. 26	104.0	52.1	100.3	68.7
May 3	103.7	83.0	100.2	69.4
May 10	103.9	100.3	100.3	70.9
May 17	103.6	101.3	99.8	71.8
May 24	102.7	102.3	100.3	71.2
May 31	103.2	38.7	99.6	70.2
June 7	103.2	12.5	97.9	73.2
June 14	103.2	11.8	96.8	72.3
June 21	102.8	12.3	96.8	72.1
June 28	100.8	13.3	91.8	65.8
July 5	101.5	14.2	92.8	60.0
July 12	101.9	15.1	94.7	64.3
July 19	101.4	15.3	94.4	65.3
July 26	101.5	42.9	92.6	64.2
Aug. 2	101.1	89.9	94.0	64.0
Aug. 9	101.5	93.3	95.2	64.0
Aug. 16	100.4	97.1	95.9	61.8
Aug. 23	99.8	98.7	93.4	63.5
Aug. 30	98.3	98.9	90.5	64.0
Sept. 6	100.0	100.8	89.2	63.0
Sept. 13	101.2	102.1	91.4	66.3
Sept. 20	102.1	104.0	95.1	68.7
Sept. 27	102.6	105.7	95.3	70.4
Oct. 4	101.8	106.6	95.2	71.0
Oct. 11	102.1	105.8	96.3	72.8
Oct. 18	102.9	106.9	95.0	73.6
Oct. 25	104.5	107.3	94.6	....
Nov. 1	101.0	105.9	93.0	....
Nov. 8	101.0	106.4	92.3	....
Nov. 15	103.7	106.5	90.7	....
Nov. 22	104.0	106.1	86.8	....
Nov. 29	103.6	105.0	87.5	....
Dec. 6	104.1	106.3	86.7	....
Dec. 13	104.9	107.7	84.3	....
Dec. 20	101.4	102.7	64.1	....
Dec. 27	102.0	107.2	75.7	....

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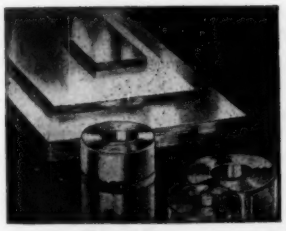
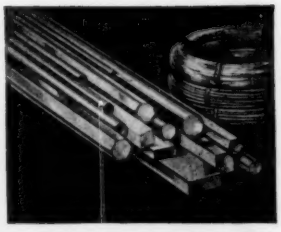
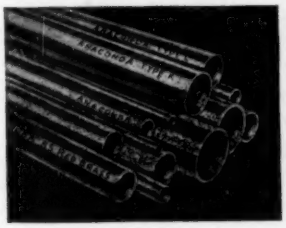
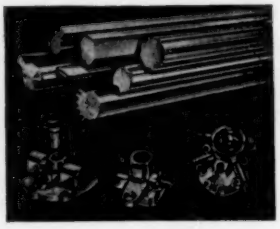

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